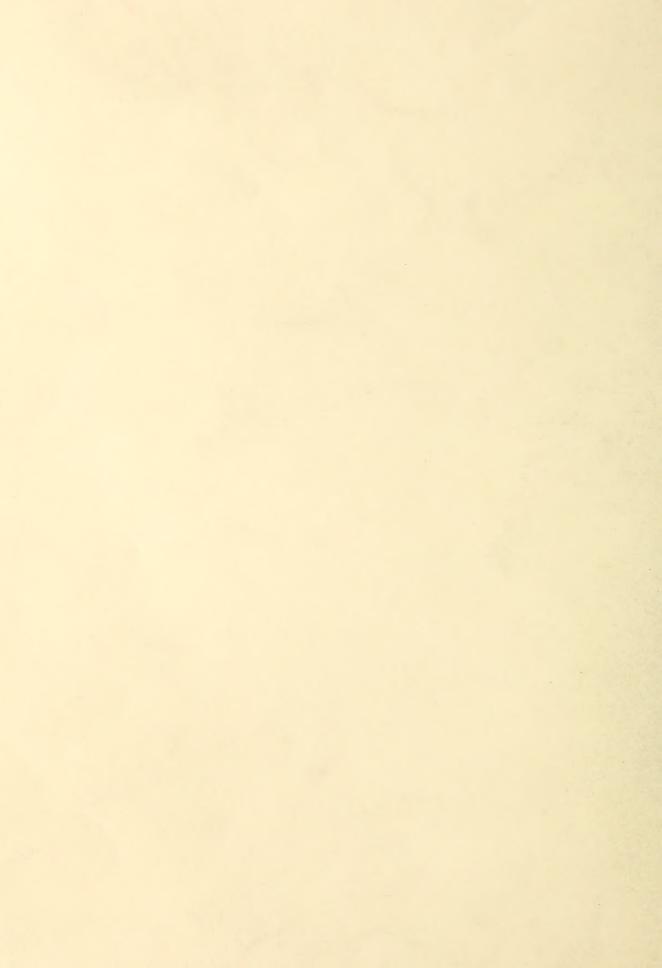
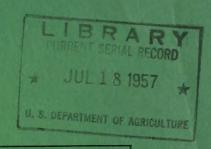
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31 Set

Sedimentation Bulletin Number 6 April 1957



## SUMMARY OF RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

Prepared under the auspices of Subcommittee on Sedimentation Inter-Agency Committee on Water Resources

Compiled by the Corps of Engineers Department of the Army, and prepared for publication by the Geological Survey Department of the Interior BONDAL WIND

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## SUMMARY OF

## RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

Compiled by the Corps of Engineers, Department of the Army, and prepared for publication by the Geological Survey, Department of the Interior, under auspices of Subcommittee on Sedimentation Interagency Committee on Water Resources, acting in behalf of the following participating agencies:

DEPARTMENT OF AGRICULTURE Agricultural Research Service Forest Service Soil Conservation Service DEPARTMENT OF INTERIOR
Bureau of Reclamation
Geological Survey
Bureau of Mines

DEPARTMENT OF COMMERCE Bureau of Public Roads Coast and Geodetic Survey DEPARTMENT OF HEALTH, EDUCATION
AND WELFARE
Public Health Service

DEPARTMENT OF THE ARMY Corps of Engineers TENNESSSEE VALLEY AUTHORITY

FEDERAL POWER COMMISSION

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Explanation of the summary table	
Form for reporting reservoir sedimentation	
Tabulation - Summary of reservoir sedimentation surveys made in the United States	
Sample form of reservoir sedimentation data	
Map - Index of river basin maps	

## SUMMARY OF RESERVOIR SEDIMENTATION SURVEYS

### MADE IN

## THE UNITED STATES

## THROUGH 1953

## NOTE

This bulletin is the sixth of a series issued by the agencies represented on the Subcommittee on Sedimentation. The series is intended as a medium for dissemination of the results of specific work projects of the subcommittee, and for general information on work being undertaken in the sedimentation field by the agencies on the subcommittee.

Copies of these bulletins may be obtained, for administrative use only, from agencies listed as subcommittee members. Bulletins previously issued by the Subcommittee on Sedimentation are listed as follows:

Bulletin No. 1	IINVENTORY OF PUBLISHED AND UNPUBLISHED	
	SEDIMENT-LOAD DATA IN THE UNITED STATES	April 1949

Bulletin No. 2 --ANNOTATED BIBLIOGRAPHY ON SEDIMENTA-TION February 1950

Bulletin No. 3 --PRELIMINARY CHECK LIST OF RESERVOIR

SEDIMENTATION SURVEYS MADE IN THE

UNITED STATES TO APRIL 1, 1950

(Superseded by Bulletin No. 6) May 1950

Bulletin No. 4 --INVENTORY OF PUBLISHED AND UNPUBLISHED

SEDIMENT-LOAD DATA IN THE UNITED STATES

SUPPLEMENT--1946 to 1950

April 1952

Bulletin No. 5 --SUMMARY OF RESERVOIR SEDIMENTATION
SURVEYS FOR THE UNITED STATES THROUGH
1950
(Superseded by Bulletin No. 6.)
August 1953

Joint Hydrology -- Sedimentation Bulletin No. 7--ANNOTATED BIBLICGRAPHY
ON HYDROLOGY 1951-54 AND SEDIMENTATION 1950-54
(United States and Canada.)
December 1955

## FOREWORD

This bulletin, together with the appendix, is a presentation of the results of all known, reliable, sedimentation surveys made in the United States through 1953. The purpose of the bulletin is to make readily available the more pertinent data on reservoir sedimentation which would otherwise remain in the archives of the agencies making the surveys. Included in the bulletin is a summary table listing the names of the reservoirs on which sedimentation surveys have been made, together with information relative to location, drainage area, rate of sediment accumulation and related information of general interest. Information has been assembled on 704 reservoirs. These reservoirs are located in 39 states and Puerto Rico; there being no surveys reported for Delaware, Florida, New Jersey, North Dakota and the six New England States. In addition to the data on storage reservoirs and stock ponds some information is included on debris basins.

Sedimentation Bulletin Number 5 presented a summary of reservoir sedimentation surveys made through 1950. Experience with the application of data in Bulletin Number 5 suggested minor change in format that were adapted in this bulletin. Accordingly, all reservoir surveys reported in Bulletin Number 5 have been repeated in this bulletin. The appendix from which the data were extracted for this bulletin and Bulletin Number 5 contains detailed information about each of the reservoir surveys listed in the summary tables. The appendix is not being distributed to all recipients of this bulletin because of its bulk and because the detailed information is not of general interest. However, copies of the appendix are available for inspection in the Washington, D. C., offices and in many of the field offices of the agencies represented on the Subcommittee on Sedimentation. Copies may also be obtained on a loan basis from these agencies.

An example of the form of presentation of the detailed information contained in the appendix is given on pages 43 and 44 of this bulletin. A similar data sheet is included in the appendix for each reservoir listed in the summary table.

The basic data vary in relative accuracy. The surveys range from reconnaissance measurements of depth of deposition at a few locations in a reservoir to detailed surveys which include frequent cross sections or complete contour mapping. No classification of relative accuracy has been attempted in this bulletin.

It is anticipated that the results of new surveys or resurveys of reservoirs will be presented from time to time as supplements to this bulletin. Revised sedimentation data sheets for these reservoirs will also be distributed to recipients of the appendix so that copies of the appendix may be kept up to date.

It is hoped that the information in this bulletin and in the appendix will prove useful to many engineers in public and private practice who are interested in problems of reservoir sedimentation. It is also hoped that private engineers and engineering firms and local government agencies who have data on similar reservoir surveys will make this information available to the subcommittee for inclusion in supplements to this bulletin.

Work Group on Sedimentation in Reservoirs

- L. C. Gottschalk, Soil Conservation Service James Smallshaw, Tennessee Valley Authority
- V. A. Koelzer, Bureau of Reclamation
- W. D. Romig, Bureau of Reclamation
- R. B. Vice, U. S. Geological Survey
- B. L. Hobbs, Chairman, Corps of Engineers

### ACKNOWLEDGEMENTS

The preparation of data sheets in the form required for the appendix has been accomplished by the efforts of personnel in many offices of Federal, State, and local agencies. The initial phase of inaugurating the data collection program and final phases of compiling data for the summary table in the bulletin, preparing typed sheets for the offset reproduction, and the cost of reproduction have been undertaken by the Washington, D. C., offices of the agencies listed on the title page. The efforts of the field offices which have been primarily responsible for the collection of data are gratefully acknowledged.

## EXPLANATION OF THE SUMMARY TABLE

Data in the summary table of the bulletin have been obtained from the reservoir sedimentation data sheets contained in the appendix. Dashes in columns of the table signify absence of data, or that the column is not applicable for the reservoir.

Reservoirs are grouped according to the 79 drainage areas into which the United States has been divided as shown in the publication, "River Basin Maps Showing Hydrologic Stations," compiled under the auspices of the Subcommittee on Hydrology, Federal Inter-Agency River Basin Committee. An index map of these drainage areas is shown on page 47 of this bulletin. In the summary table of this bulletin, the drainage areas in which the reservoirs are located are shown as subheadings. The first of the two numbers identifying a reservoir indicates the drainage area in which it is located. The second number denotes the particular reservoir in the drainage area and is based upon the order in which the data were prepared. These numbers are the same as those identifying the corresponding data sheets in the appendix. When an appendix sheet is revised or when another sheet is prepared with information for additional surveys the identification number is shown alphabetically, for example 13-2a modified by the addition of letters beginning with a; for example 13-2, 13-2a, 13-2b, etc.

Total drainage area includes the reservoir area and the area lying above all upstream dams but generally excludes non-contributing drainage areas lying within the basin boundary. Where available, the drainage area figure published by the U. S. Geological Survey in Water Supply Papers is used in most instances. The net drainage area is the net sediment-contributing area and excludes the reservoir area and the drainage areas above the upstream reservoirs which are effective sediment traps.

The date of the initial survey is generally shown as that corresponding to the initial storage of water before or during the period of diversion at which time it is considered that the trap efficiency first became appreciable. In other cases the initial date represents the date of the contour or range survey made after the reservoir was in operation for some time; most of these cases are clarified by explanatory foot notes.

The storage capacity is the total storage below the level of the crest of an ungated spillway or the top of gates (less gate-height freeboard if any) of gated spillways.

The capacity-watershed ratio (c/w) is derived from the corresponding storage value as discussed above. The watershed area is the entire flow-contributing drainage area. A dash is shown if upstream reservoirs which have a c/w ratio of more than 25 acre-feet per square mile control more than 25 percent of the drainage area.

The specific weight of deposited sediment is an average or weighted value for the reservoir, determined generally from samples of deposits. In view of the variations of specific weight with depth of the sample and with the location in the reservoir, the determination of a mean specific weight is generally an approximation for the reservoir. If the entry is marked by an asterisk, the specific weight is not obtained from measurements but is assumed or is calculated from field data of the size-frequency grading of the deposits and a chart relating size-frequency with specific weight.

The rate of sediment accumulation pertains to sediment deposited in the reservoir below the full pool elevation but does not include the sediment deposited in deltas above full pool level or sediment discharged from the reservoir. It was assumed that all of the deposited sediment was transported into the reservoir by flowing water.

## FORM FOR REPORTING RESERVOIR SEDIMENTATION

On pages 43 and 44 of this bulletin is a completed sample of the reservoir sedimentation data sheet from the appendix. This sheet is a convenient and standard form for reporting results of surveys. An invitation is extended herewith to readers, particularly those practicing engineering individually, in engineering firms, or in local government agencies, to prepare sheets covering surveys known to them but not included in this bulletin. A blank form is inclosed as a tear sheet of this bulletin and additional forms may be obtained from the Washington offices of the agencies listed on the title page or the form may be reproduced if desired. The completed forms may be sent to any one of the agencies represented on the Subcommittee on Sedimentation for inclusion in supplements to this bulletin.

## SUMMARY OF

GE NL NT ATION MI.	TONS				1/217		1 1	808	0.12	2 1	E 4	1	421	1	I I !	4 o 8		1	336	1	533		10, 337	1-1	184	218	: ;	1 1	
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SPECIFIC WEIGHT IN LBS (DRY) PER CU FT					- 09*		ă I	09*		3 ;	1 1	1 1	49, 1	\$ 3	1 1 5	09*		1	*60	1 1				1 1			1 1	[ ]	
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STORAGE CAPACITY IN ACRE-FT		R BASIN			63, 821 62, 702		65,821	60, 466	60, 333	1,991	1,953 3,746	3,686	2, 532	1,051	988	50%		1 847	1,762	1,723	181	196	385	373	4,158	20,089	3,004	7,312	
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		, AND P	RIMACK	MINAGE	312.3 A	VER BA	299, 4		77.5 AJ	3, 04 -	34, 55 -		42. b	4.94	45, 35 M	N.	MES RIV	14.3 Je				. 79 Ju		Ja 336, 4 Ju	~			59.6 M	
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NEAREST TOWN		ST. JOHN, MACHIAS, PENOBSCOT, KENNEBEC, ANDROSCROGGIN, AND PRESUMPSCOT RIVER BASIN	HOUSATONIC, CONNECTICUT, THAMES, AND MERRIMACK RIVER BASINS	HUDSON RIVER BASIN AND ST	Prattsville, N. Y	SUSQUEHANNA AND DELAWARE RIVER BASINS	Towson. Md.	qo	Hereford, Md	Scranton, Pa	do	ф	York, Fadodo	Scranton, Pa	Belair, Md.		POTOMAC, RAPPAHANNOCK,	Alexandria Va	do	dodo	Silver Spring, Md	Berwin, Md	Staunton, Va	Manassas, Va	Ashton Md	Compositional Max	down down with the trees.	do	
STREAM		ST. JOHN, MACHIAS, 1	HOUSAT	SUNH	Schoharie Crdodo.		Gunpowder Falls River	op	do	Griffin Creek (Legget)	Roaring Brook	do	Codorus Creekdododo	Stafford Meadow Brook	Winters Run	ор	Dd.	Holmes Rup.	Dodlor Direct		N. W. Branch Anacostia River.	Trib. of Indian Creek	North River	Occoquan Creek	Patuxent River	Builde Groot	do	do	
RESERVOIR					Schoharie (Gilboa Dam) do		Lock Raven	qo	Prettyboy	Griffin	Elmhurst	do d	Lake Williamsdododo	Williams Bridge	Atkisson	ор.		Barcroft.	dodo	do.	Burnt Millsdo.	Greenbelt Lake	Staunton	Jackson	Tridelphia Lake (Brighton Dam)	Gordon Lake	op	Thomas W. Koon Lakedodo.	
DATA SHEET NUMBER		1.		-2	3-1		4-1		4-2	4-3	4-4		g - 4	4-6	4-7			5-1	59	3 0	5-3	5-4	5-5	9-9	5-7	00 1 10	) (	5-6	,

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Chester, S. C.   16.05   15.92 Nov.   1926
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Chester, S. C. 16.05 15.92 Nov, 1226  Lancador, S. C. 9.40 9.34 Feb. 1925  er. do. 91.33 90.8 May 1935  Fingerville, S. C. 91.33 90.8 May 1926  Creer, S. C. 91.33 90.8 May 1935  Abemarle, N. C. 91.33 90.8 May 1935  Kamaplis, N. C. 18.0 17.7 July 1939  Kamaplis, N. C. 18.0 17.7 July 1939  Roberdell, N. C. 168.0 9.4 Mar. 1940  Troy, N. C. 269 269 194  Abemarle, N. C. 168.0 194  Abemarle, N. C. 168.0 194  Rockingham, N. C. 269 269 194  Marcoe, N. C. 269 269 194  Rockingham, N. C. 176 8 1938  Minston-Salaw, N. C. 176 8 1938  Minston-Salaw, N. C. 27.68 Nov. 1919  Winston-Salaw, N. C. 27.68 Aug. 1935  Lexington, N. C. Appr. 1940  Apr. 1940
Chester, S. C.   16, 05   15, 92 Nov.
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er. Branch.
er. P
Chester

1/Includes estimated 112 acre-feet passing through Shandaken Tunnel.

7-11

7-13 7-14 7-15 2/ Koon Lake, upstream, was built in 1932. 3/ Based on total sediments in both Gordon Lake and Koon Lake. 4/ Based on total of 7.4 acre-feet of sediment remaining in reservoir; 0.2 acre foot of sand removed in 1933.

5/Excluding 2.04 acre-feet of sediment dredged from lake in March 1942.
6/Ledbetters Dam upstream.
7/Narrows Dam upstream.
7 Fistimated or assumed.

5

SUMMARY OF

AVERAGE ANNUAL SEDIMENT CUMULATION PER SQ M.	TONS		2,410 1,140				1,580 446		2/1,660		144
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI. FOR PERIOD	ACRE-FT		2,22				1.45		1.66		1.34
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			49,82 50,9 * 60				* 50		2/63.7		0 0
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			131 125 116 79,6 69,7				276 258 255		556 541 31.9 72.2 63.8 59.4 17.2 15.2 457 445		164 132 80.7 79.1 87.9
STORAGE CAPACITY IN ACRE-FT			1,836 1,748 1,626 112,538 98,578				384 358 354		890 865 1,021 900 102 156,525 136,526 138,520 19,080		11,866 9,514 2,421 2,373 4/2,636
PERIOD BETWEEN SURVEYS IN YEARS			2.8 8.15 2.5 8.5 8.5	N. S.			13.4	INS	10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0		24.6  6.75 17.75
DATE OF SURVEY		BASINS	June 1938 Apr. 1941 Oct. 1949 Dec. 1910 Mar. 1935	RIVER BASI		R BASINS	June 1924 Nov. 1937 Feb. 1945	A RIVER BAS	July 1929 July 1939 Oct. 1929 Nov. 1938 Feb. 1931 June 1937 Dec. 1913 May 1936 Sept. 1910 Nov. 1935	R BASINS	May 1911 Dec. 1935 Feb. 1929 Nov. 1935 Aug. 1953
DRAINAGE AREA IN SQUARE MILES	NET	AND ALTAMAHA RIVER BASINS	13.84 13.86 1,407	SUWANNEE	AINAGE	ONEE RIVE	£ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ND ALAMB	1,51 1/11.0 1.6 9,076.5	AND PEARL RIVER BASINS	71,6
DRAINA IN SQUAI	TOTAL	IND ALTAN	14.02	HNS, AND	LORIDA DE	ОСНГОСК	1,39	CAMBIA, A	1.60		30.0
NEAREST TOWN		SAVANNAH, OGEECHEE, A	Clemson, S. C	SATILLA, ST. MARYS, ST. JOHNS, AND SUWANNEE RIVER BASINS	SOUTHERN FLORIDA DRAINAGE	APALACHICOLA AND OCHLOCKONEE RIVER BASINS	Newnan, Gadododo.	CHOCTAWHATCHEE, YELLOW, ESCAMBIA, AND ALAMBA RIVER BASINS	Jasper, Ga  cartersville, Ga.  Auburn Ala  Clanton, Ala  Birmingham, Ala	TOMBIGBEE, PASCAGOULA,	Birmingham, Ala do Tuscaloosa, Ala
STREAM			Six Mile Creek do. Ocmulgee River	SATILI			Bolton Mill Creekdododa	CHOCTAWE	Small Branches.  do do Pettii Creek  Town Creek  Coosa River  Little Cahaba River:	T	Village Creek
RESERVOIR			Lake Issaqueenadodoloyd Shoalsdododododododo				Newnandododododododododododododododododo		Seguoyah.  do. White Manganese No. 6.  Lake Auburn.  Lay.  Lay.  Lay.  Lay.  Lay.  Lay.  Ado.		Bay View.  Lake Harris.
DATA SHEET NUMBER			8 - 8 - 2		9-		11-1		12-1 12-2 12-3 12-4		13-1

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9	108	803	799	150	111	192	149	119	184	134	178	177	79.9	737	186	151	156	119	788	619-	114	185	122	189	124	267	241	143	221	149	106	225	181	247	382	364	136	118	195	357	342	3/525	522
200	153 279	34, 533	34,340	1,46	1.07	12.0	36, 4	29.0	8.80	6.40	14.8	2,46	1,11	306	256	78, 1	15.9	12.1	12.3	9.66	4,01	5.01	3,61	6,47	4,23	58.7	33.0	1.07	9, 93	6.70	2.54	31.0	24.9	221	17.4	16.6	3.77	3, 29	30, 5	23.0	22.0	3/525,300	521, 540
	19 4		12.6	p 1	3, 3	0 1	·	4.1	1	4. S	2 3	1	8, 5	1 !	17.0	6.0	į	9.0	-	35,0		*	4.0	; ;	2.7	1 6	0.8-	35.0	1	23.0	4.5	1	13.2	14 2	7 1 1	6.0	;	3.7	1 4	0.0	5, 2	1	6, 3
1000	May 1950	Oct. 1937	_	Oct. 1947	,	lan, 1947	٠.	_	_		Jan 1951	-	_	Jan. 1934			_	_		_ '			٦.	'	_	,	Feb, 1951 Feb, 1916	-	_	Mar. 1951	Mar. 1951	_			Mar, 1931 Mar, 1945	1	_	Mar. 1951	lept, 1945	Mar, 1951	٠.	Aug. 1941	Dec. 1947
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101	,421 124,	43.0	1	. 0097	1 2	, 0625	. 244	. {	.0478			. 0139	<b>1</b>	, 4153	 5045		. 1019	:	. 0156	1 0	. 0406	7000		. 0342	1	. 2196	0075	: ;	. 0450	0000	6570.	.1375	1 0	. 8672	.0456	: }	.0278	;	. 1563	0644	. 1	0000	1
A Paris Commission of the Comm	dot oprings, Ark	Jittle Rock, Ark	ор	Holly Springs, Miss	ор	Slayden, Miss	0000	do	folly Springs, Miss	do		op	do	Olive Branch, Miss	do	op	Varsaw, Miss	do	do	do	lictoria, Miss	go	op op	Holly Springs, Miss	do	forn Lake, Miss	Oxford Miss	do	do	do	aylors wissdo	Oxford, Miss	do	do	Batesville, Miss	do	Holly Springs, Miss	do	Arkabutla, Miss	Fudora Miss	do	rkabutla, Miss 1	do
	do do	Alum Fork Saline River.	op	. Trib of Chewalla Creek I	do	Trib of Coldwater River	op op		1op	Table of Table 112 Cook	do do	Trib of Coldwater River		Trib of Camp Creek		000		do	do	op	Trib of Byhalia Creek	do	00	Trio of Guffawa Creek	do	Trib of Mississippi River I	Trib of Tobi Tubby Creek	dodo	Trib of Hudson Creek	do	Trib of Yocona River	Trib of Sarter Creek	do	Trib of Pumpkin Creek	Trib of Tallahatchie River.	op	Trib of Pigeon Roost Creek	do	Trib of Arkabutla Creek	Trib of Hurricana Creak	de do de	Coldwater River	op
	Lake Hamilton	Lake Winona	do	White Pond	do	B. H. Honnesucker Pond	G. S. Hordie Pond	do	Pond	dodo	do do	P. T. McAlexander.	do	Lake Shakoka	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	do do	C. L. Patton Pond	do	C. B. Langston, Jr., Pond	do	Pond (North)	relation through Dend (Courte)	Fletcher Hurale Fond (South)	C. C. Stevenson Pond.	do	Gayoso Lake	dodogo	dodo	C. D. Williams Pond	do	R. X. Williams	Henry W. Ramsey Pond	do	Dr. Bramlett Pond	A S Kyle Pond	dodo	Ben P. Smith Pond	do		Charles Dockers Dand	Charles Dockery Fond		do
	1-61	15-2		15-3		15-4	15-5		15-6		1.0-1	15-8		15-9		01-01	15-11		15-12		15-13	7 - 0 -	13-14	15-15		15-16	15 17	11-01	15-18		15-19	15-20		15-21	15_99	77-01	15-23		15-24	20	15-25	15-26	

## LOWER MISSISSIPPI RIVER BASIN (CHESTER TO HELENA) St. Francis River Basin

1	2/1,860	1	254	1	471	
	$\frac{2}{1.133}$		. 213	1 6 1	. 338	
!	75.4	;	54.8	;	64	
52.3	42.5	46.2	43,6	42,9	39, 5	
24.05	19, 56	87.7	82.9	171	158	
;	8,8	1	12	-	10	
1930	1939	1927	1939	1929	1939	
Oct.	July	1	July	\$	July	
0.45	1	1,87	;	3,96	}	
0.46	1	1.90	1	3,99	1	
Grisham Lost Creek Bismark Mo.		Mountain Lake Trib of Rings Creek. Patterson, Mo.	do do do	Spenherd Mountain Trib of Stouts Creek Ironton, Mo.		
Grisham	do	Mountain Lake	op	Shenherd Mountain	do	
16-1		16-2		16+3		

1/Drainage above Reservoir No. 3 excluded.  $\overline{2}/V$ alues based on below-crest deposits are given in appendix summaries.  $\overline{3}/V$ alues from April 1939 contour survey.

 $\frac{4}{\text{W}}$  With 5-foot flashboards added in 1947. \*Estimated or assumed.

7

AGE AL ENT ATION & MI. RIOD	TONS		1 6	784	5,070	4.370	1 0	3,100	1	: :	1,870	4.310		823	174		1	1,552	1,368	1 1	215	1,976	458	2 !	2,402	192	1 1	1,671			1	538	1,720	38		1,420	
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI.	ACRE-FT		1	009.0	3, 15	. 68		7. 10	2, 46	0.833	1, 43	. e.	0	. 283	. 133	. 0414	: :	1, 51	1, 11	13	. 64	1.91	- 19	. !	2,85	. 32	:	1. 22			;	0,617	1.97	0.03	0 1	. 975	
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT	7		1 3	09*	73.9	*76	1 5	10,	1 3	1 1	09*	1 1	1 5	*65	*60	1 1	1	47.2	56.6		30.8	47.5	1 6	:	38, 7	27, 5	}	62.9			;	*40	*40	*7.5	2 ;	*67	
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			322	311	398	333	378	399	376	13, 9	12, 8	52	16, 7	11, 0	12	477	344	330	138	92	394	374	108	1,640	1,616	112	226	196			204	178	1,870	8,66		8, 4	
STORAGE CAPACITY IN ACRE-FT			1,228	1, 184 1, 386	1, 193	73.0		1,608,4	1,515.0	0,401,0	8,2	30, 9	8, 2	818	622	625,000	1,599	1,535	46, 8	24.0	67,320	63,894	705	25,741	25,365	178	74.6	64.7			137	119	1,010	14,722	178	127 306	,
PERIOD BETWEEN SURVEYS IN YEARS			13	20	22, 1	30	1 6	S 1	10,1	12.0	2	, o	' ; ·	10	29	7.0	;	9.6	32	; ;	14	11, 2	%	8 :	8 .0	38	;	25, 7			ł	46.3	19.0	17 2		ຫ ຫ	
DATE OF SURVEY		O HELENA)	1888	Dec. 19081/ Aug. 1926	Sept. 1	1919 Oct. 1949	-		Sept. 1936	July 1949 1932	1939	1930	1928	1938 <u>-</u> / 1910		July 1940 July 1947			: :		Aug. 1951 May 1940	_	1921 Tult: 1951	Mar. 1942	July 19513/	19513/	Dec. 1925_	Aug. 19513/	OWN	(N. 11)	July 1894		Sept, 1940	June 1923	Oct1938	Sept. 1948 Aug. 1927	E Company
E AREA E MILES	NET	HESTER To	3, 65	2,77		902.	1.87	3,75	;	. 07	1	90 *	. 48	51	1 1	1, 206	4, 42	216	. 310	. 25	160	1	6,31	14, 2	1 "	1. 10	32	!	TWOINII OF	n n	0,63			1,698	4/5.29	25.0	2
DRAINAGE AREA IN SQUARE MILES	TOTAL	ER BASIN (C	3, 81	3,00	-	. 219	2, 23	4,03	1	. 63	1	. 56	. 49	. 51	1 1	1,310	4,65			. 26	171	;	6, 5	15, 7	,	1. 10	33	1	NOSIGNAM)	Wabash River Basin	0.67	1	* 0 *	1,700	15.03	25.1	2
NEAREST TOWN		LOWER MISSISSIPPI RIVER BASIN (CHESTER TO HELENA) St. Francis River Basin (continued)	Earlington, Ky	Carbondale, III.	do	Eldorado, III	do	West Frankfort, Ill.	do	Farmington, Mo	do	do	ф	Annapolis, Mo.	do	Poplar Bluff, Mo	Mt. Vernon, Ill.	Monion III	marion, m.	do	Carbondale, Ill	do	Marion, Ill	Carbondale, Ill	do	nerrin, mido	Marion, Ill	ф	OHIO BIVER RASIN (MADISON OF OPEN	Waba	Huntingburg, Ind	do	do	Monticello, Ind	Mitchell, Ind	Xenia, Ill.	A 1 C a 2 a 2 a 2 a 2 a 2 a 2 a 2 a 2 a 2 a
STREAM			Brown Creek	Piles Fork	do	Trib, of Wolf Creek	Wolf Creek	Tilley Creek	do	South Fork Jonaca Creek	ор т	do.	ор	Big Creek	do	St. Francis River	do.	do	ф.	do	Crab Orchard Creek	ф.	Limb Branch	Little Grassy	ф.	op	ф.	ор			Trib, of Patoka River	do	do do	Tippecanoe River	Mill Creek	Connor's Branch.	
RESERVOIR			Loch Mary	Carbondale	do.	Dering Coal Co. Pond	Eldorado	West Frankfort	op	Pineview (Lower)	doob	Pineview (Middle)	Pineview (Upper)	Killarnay	Ф т	Wappapello	Lake Miller	Ellipsie Tolog	Filters Lakedodo	Baker's Lake	Crab Orchard Lake	ф.	Marion	Little Grassy Lake	op	nerrin Reservoir no. 1	Knights of Pythias Lake	ор «			Huntingburg (Upper)	do.	dentally into the desired do	Shaefer Lake	Spring Mill	Greendale Lake	
DATA SHEET NUMBER			16-4	16-5	0 1	16-6	16-7	16-8		16-9		16-10	16-11	16-12		16-13	16-14	3.5	61-01	16-16	16-17		16-18	16-19	00	07-01	16-21				17-1	0	7-11	17-3	17-4	17-5	

TENNESSEE RIVER BASIN (BELOW HALES BAR DAM)

	:	;	;	:	;	1	;	9	1,173	647	1	1	;	t I	553	999	138	138	5	936	208	ŧ	830
	-	0,660	1 4	. 667	;	;	;	;	. 979	. 540	;	1/	. 437	;	9/.479	9/, 486	8/, 120	8/, 120	;	. 811	, 180	1	. 719
	į	;	;	1	1	1	;	:	*55	*55	1 1	*55	*55	;	*53	53	*53	*53	t †	*53	*53	;	*53
	625	609	83, 7	61, 2	;	;	;	;	;	•	;	;	8 8	;	;	;	1	;	;	;	7 1	;	1
	1,313	1,279	753	551	5,450	;	£	1,097,380	1,080,897	1,096,740	/1, 122, 000	6/1,071,717	/1,059,593	687,000	674,000	652,000	651,000	650,000	1, 130, 313	1, 116, 389	1,118,082	72, 879, 549	/2,855,440
	ž Š	25.7	!	34	:	18,8	11,9	I I	6.6	4.9	9	10.7 6		1	3,0	0	9,8	4.7	:	8, 6	4.7	9	4.7 6
	Mar. 1915	Nov. 1940	1907	Jan, 1941	Dec, 1916	Sept, 1935	Aug. 1947	Nov. 1940	June 1947	May 1952	Oct 1936	June 1947	May 1953	Dec, 1928	Dec. 1931	Dec. 1936	Sept, 1946	June 1951	Feb. 1938	Sept, 1946	June 1951	Aug. 1946	May 1951
Dasins	2, 0	1	8, 90	;	1,671	1	1	2,550	1	1	5,033	-	1	8/1,035	ŀ	;	4 #	1	1,977	1	1	7, 131	1
Green River	2, 1	1	9, 00	1	1,675	:	;	24,450	1	1	29, 590	;			;	;	-	1 6	32,820	;	š 1	46,200	1
Cumberland and Green Kiver Basins	Nashville, Tenn	ф	Hopkinsville, Ky	do	Rock Island, Tenn	do	do	Guntersville, Ala	do	do	Town Creek, Ala	do	do	Florence, Ala	фор	do	do	do	Pickwick, Tenn	do	do	Gilbertsville, Ky	фф
	Other Creek	ор	Little River		:			Tennessee River	ф.														
	Radnor Lake Other Creek	ф					op	Guntersville	ор	••••••••••••••••••••••••	Wheeler do	ор		Wilsondo	op	do	ор	dodo	Pickwick Landingdodo	dodo	dodo	Kentuckydodo	фф
	18-1		18-2		18-3			18-4a			18-5a			18-6a					18-7a			18-8a	

OHIO RIVER BASIN (POINT PLEASANT TO MADISON)
Kanawa, Big Sandy, Licking, Kentucky, Scoito, and Miami River Basins

;	1	:	291	1	63	;	168	1	28	3	1	8 8	1	1	1	:	1	1	t t	1	4,860	1	1
;	10/2.50	;	. 191	:	. 037	-	760.	t i	. 020	;	1	.035	1	. 008	1	. 894	1, 73	1	. 471	1	4.46	b c	2.13
;	1	t 1	*70	1	77.5	1	79.5	t t	*65	59, 4	1	;	l I	1	;	i I	68, 0	e e	1	1	*50	1	ţ.
570	475	5.00	3,09	479	479	393	391	4, 33	3, 72	3, 73	. 20	. 11	. 45	. 23	99.8	89, 3	99, 1	593	585	512	488	240	226
114	92	1,646	1,018	312,000	311,648	106,000	105,618	4,563	3,920	3,928	4.68	2, 53	1,04	. 52	3,734	3,338	3,706	258,949	255, 706	128	122	113	106
;	38,9	t t	10	1	15	:	15	;	30	16	1	2,6	1	2,8	-	12.0	4.0	1	16	1	9	:	7
Oct. 1902	sept. 1941	Aug 1934	July 1944	192711/	1942	192711/	1942	1905	1935	1951	Nov. 1936	June 1939	Jan, 1937	Nov. 1939	Oct. 1935		Aug. 1951	Oct. 1925	Oct. 1941	1931	1937	1930	1937
0, 20	-	329	-	639	1	264	-	,052	-	1	24 I	-	23		36.9 C		H	431	-	. 24	1	. 47	t t
0, 20	1	329	. !	651	1	270	;	_	;	;	24	;	23	;	37.4	:	;	437	:	. 25		. 47	:
Lancaster, Ky	do	Radford, Va	фф	Dayton, Ohio	ф	Germantown, Ohio	do	Columbus, Ohio	do	ф	do	do	do	do	Waverly, Ohio	op	do	Harrodsburg, Ky	do	Walton, Ky	do	Williamstown, Ky	op
Unnamed Stream	ор	Little River	do	Stillwater River	ф.	Twin Creek	ф	Sciota River	do	do	Blacklick Creek	do	до	do	Pee Dee Creek	do	do	Dix River	do	Bank Lick Creek	тор т	Grassy Creek	p
Lake Placid	dp	Radford	do	Englewood	do	Germantown	ор	Griggs	do	do	Ohio Cons. Pond No. 73	do	Ohio Cons. Pond No. 74,	do	Lake White	do	do	Herrington Lake	do	Walton	фо	Williamstown	do
19-1		19-2		19-3		19-4		19-5a			19-6		19-7		19-Ja			19-9		19-10		19-11	

- . 62 . 89

1/Spillway crest raised from 439 feet m.s.l. to 441.77 feet m.s.l, in April 1943. All data computed on basis of 441.77 feet at spillway elevation. 2/Net sediment volume in 1949. The 93.3 acre-feet of sediment deposited prior to 1936 had compacted, due to exposure to 75. 7 acre-feet.

 $3/{\rm Reconnaisance}$  survey.  $4/{\rm The}$  non-contributing drainage area is chiefly closed, or plugged limestone sinkholes.  $5/{\rm In}$  July 1925. In June 1915, spillway elevation was 5 feet lower and c/w ratto was 4.6.

6/Excluding dyked areas.
7/Guntersville Dam closed Jan. 16, 1939 reducing sediment contributing area to 5,033 square miles.
7/Guntersville Dam closed Jan. 16, 1939 reducing Wheeler Dam on Oct. 3, 1936 to 1,135 square miles.
8/Sediment contributing area below Hales Bar Dam (8, 335 Sq. Mi.).
19/Includes sediment dredged in 1930 amounting to 61 percent of tabulated values.
11/1/Year survey ranges were established.

SUMMARY OF

ERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953	
R SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH	1953
R SEDIMENTATION SURVEYS MADE IN THE UNITED STATES	THROUGH
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AGE JAL ENT LATION Q MI.	TONS		;	; ;	171	191		1,032	441	208	1,361	1	331	1,137	1 0	282	2,614	;	302	200	0 1	2,664	3,460	0 7 2	1 1	551	51	124	;	1,015	143	1 10	1	355	283	167		186	1,038
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI. FOR PERIOD	ACRE-FT		;	1/0.184	. 121	. 135		. 913	. 42	. 21	. 722	;	, 253	. 87	-	. 396	2, 40	;	. 25	28	. !	2, 73	3, 53		000	. 441	.039	10			620.		. !	. 272	. 194	998	. :	. 140	. 895
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			;	1 1	*6.5	*65	7 44. 7	51,91	48.2	45.5	86.6	: :	09*	19*	1 0	68,95	*50	;	55, 5	2 6 2	0.20	44,8	*45	1 5	2 .00	57, 4	09*	- 22	-	55, 5	83, 2	1 0		59, 92	67,02	10 10	04,01	61.0	53.24
CAPACITY WATER- SHED RATIO IN ( ACRE-FT PER SQ MI.			6.79	2,70	15.8	14.7	14. 3 49	36	10.3	8.86	74	98	330	229	55	382	358	28	4/22	24	149	141	147	52	26		2.81			919		19	42.3	38.5	9.00	21.3	6.17	4.09	68
STORAGE CAPACITY IN ACRE-FT			8,892	3,538	15,604	14,538	14,162	84	5982	507	1,190	88	88.2	71	134	3, 331	3, 126	384	4/295	12	275	261	59	83	18	15		7,3		774	23.9	44.8	25, 4	23.1	32	13	101	19	304
PERIOD BETWEEN SURVEYS IN YEARS		ued) Basins	:	23,66	5 0	eo c	ו ככ	10	2 8	2.0	1,6	: :	12	12, 3	1	11, 7	10.5	1	26	1 0	1.3	3,8	2.8	1 6	12, 4	10	18	1 6	00 !	20	17	1 0	1.4.5	14.3	15,3	1 6	13, 3	15.3	3,5
DATE OF SURVEY		SON) (Contin Miami River	_	May 1936			July 1951 1940	-	Dec. 1946	-	Dec. 1948	-	Sept. 1949	Sept, 1951	-	Aug. 1950 Jan. 1940	-	1925	1951		Aug. 1951	Aug. 1951		~	Aug. 1951	Aug. 1950	Oct. 1948	1921	Aug. 1951 1901		1932 Sept. 1949	1938	July 1950	July 1950	July 1950	ent i	July 1950	July 1950	July 1950
E AREA	NET	T TO MADE	1,310	987	100	;	2,30	1	57.0	;	24.96	1.00	-	06.	2,40	8.14	:	13.7		. 50	1.39		. 38	1.58	. 70	2/2	2/ 3. 30	. 82	. 70		3,04	2,53	09'	1	.4.	. 61	15.76		4.39
DRAINAGE AREA IN SQUARE MILES	TOTAL	NT PLESAN, Kentucky,	1,310	988	000	;	2,33	1	57.2	:	25.25	1.02	;	16	2, 42	8. 73	:	23		. 50	1.85		04.	1,59	. 70		0,03	. 82	. 81		3, 03	2,54	. 60	:	. 48	.61	16.38	1	4, 45
NEAREST TOWN		OHIO RIVER BASIN (POINT PLESANT TO MADISON) (Continued) Kanawa, Big Sandy, Licking, Kentucky, Scoito, and Miami River Basins	Byllesby, Va	Dublin Obio	dodo	do	Piqua, Ohio,	do	Ohio	do	Mt. Orab, Ohio	Waverly, Ohio	do Ob.	Chillocothe, Onio	Gillespieville, Ohio	St Paris Ohio	op	Dublin Ohio	do	Kenton, Ohio	Vienna, Ohio	do	do	Springfield, Ohio	Bidwell, Ohio	do.	Mt. Gilleau, Onlo	Westerville, Ohio	Wellston, Ohio	qo	Mt. Gillead, Onio,	Friendship, Ohio	do	do	do	do	do	do	West Union, Ohio
STREAM		Kar	New River	Scotio Byzer	dodo	do	Patterson Run	do	Dear Creek	op	Sterling Run	Trib. of Stony Creek	do	90	Tar Hollow Creek	Mosonito Creek	op	Eversole Run	dodo	Trib. of Silver Creek	Trib. of Beaver Creek	do	do	Trib, of Mad River	Trib, of Barren Creek	dodo	sams Creekdodo	Trib, of Big Walnut Creek,,	do	do	sams Creekdo.	Pond Lick Run	Wolfden Run	ор	Left Fork Bear Creek	Trib of Pond Run	Turkey Creek	do	Lick Creekdo
RESERVOIR			Byllesby.				Decker Lake	do	Madison Lakedo			Caldwell Lake			Pine Lake	Kiser Lake		Eversole Run (Trib, arm of	down do	Allen Lake	Svlvan Lake (Lower).		Sylvan Lake (Upper)dodo		Reynolds Pond.						Maple Grove Lake	Pond Lick Lake	Wolfden Lake	do	Bear Lake	McBride Lake	Roceptelt Lake		
DATA SHEET NUMBER			19-12	19-132	5		19-14	;	19-15		19-16	19-17	10	07-61	19-19	19-20		19-21		19-22	19-23		19-24	19-25	19-26	0	7-61	19-28	19-29	6	19-30	19-31	19-32		19-33	19-34	19-35		19-36

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\$	1	0, 599			7/.11
;	-	54.0		1	40, 2
142	128	134		2.7	25
1,553	1,398	1,463		6/91.4	6/86.5
;	12	3.0		:	13
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	ne 1949	July 195		1937	Aug. 1950
- 1	·			1	Au
10.7	ş 1	1		3, 42	;
10.9	;	:		3.44	;
	:	:			:
19-37 Vesuvius Lake Storms Creek Ironton, Ohio	op	op	Pike Lake Richardson Hollow of Morgan	Fork Bainbridge, Ohio	dodo

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	1	1	1	1	;	0.340	;	;	1	. 252	. 226	. 297	<i>t</i> 4	.850	:	. 214	:	1 4	1 8	. 417	t i	. 264	. 228	1 2	. 842	. 309	1 +	. 376	101/01	12/. 101	1 0	. 313	203	. 023	1	1	9.54		1 1	;	1
	1	;	;	1	1	*55	*55	1	1	90	*50	*50	1	*55	1	*55	!	;	;	*55	8	*55	1	:	62	1	1 1	*55	1	400	1 1	*33	1 4	*33	1 11 11	664	1 u	66.	:	:	;
	806/2	7/1,218	;	4 1	455	453	1	;	18	12	10	80	-	;	1	1	1	1	1	:	27	24	22	10/47	46	43	11/702	669	1 1	1 1	10/1,311	1,309	2982	837	1 2	1	;	1 0	TCR	1	1
	638, 200	269, 800	196,670	27, 100	1,559,570	1,550,932	1,547,776	9/3,100	9/21,750	14,450	11,990	9,850	1,514,100	1,498,576	400,945	399, 415	71,110	137,300	1,444,300	1,441,087	44,030	39,030	35,030	1,700	1,640	1,553	11/2,045,300	2,034,363	1, 195, 229	1, 192, 743	247,800	247, 381	184, 400	183, 418	13/437, 569	433,105	38, 570	198, 261	197, 500	1	!
	0	0	0	0	1	7.4	5,0	-	12	12.5	9.3	6.1	1	6.4	1	4.6	1	1	1	5.4	1	11.8	10,9	1	2.0	8.2	1	10.3	1	4.7	;	7.5	: ;	9.7	! !	7.5	)	7.5	1 0	13.4	ກ
DAM)	Nov. 1950	Dec. 1948	Dec. 1952	Oct. 1953	~	_		1913	_	1	_	May 1953		_	_	,	Sept. 1950	_	_	Mar. 1950		-	Aug. 1941	_	_	Jan. 1947	Mar. 1936	П	Oct, 1946	_	Feb. 1942	_	_	_	Feb. 1940	_		Aug. 1950	Dec. 1930		Aug. 1949
HALES BAR	691	458	662	62	8/1,477	1	1	1, 182	;	}	1	t t	2,854	1 1	1,556	;	34.4	88	1,426	1	1,607	;	1	35.6	-	;	2,823	;	2,925	1	178	;	202	1.	13/539	;	48	1	227	1	ţ.
OIN (ABOVE	703	468	1,840	1,903	3, 428		1	1,183	1	1	:	;	4,541	1	9,550	;	36.7	91	1,571	;	1,608	:	1	36.0	;	;	2,912	;	17,310	;	189	1	214	;	896	;	1,018	1	332	;	;
LENINESSEE KIVEK BA	Bristol, Tenn	Hampton, Tenn	Kingsport, Tenn	do	Jefferson City, Tenn	do	do	Greeneville, Tenn	do	do	do	do	Sevierville, Tenn	do	Lenoir City, Tenn	ф	Glenville, N. C	Aquone, N. C	Fontana, N. C	op	Fapoco, N. C	ф	dp	Caryville, Tenn	qo	do	Norris Tenn	do	Spring City, Tenn	do	Haysville, N. C	do	Blairsville, Ga	do	Murphy, N. C	do	Farner, Tenn	do	Blue Ridge, Ga	do	do
	. So. Fk. Holston River	Watauga River	So. Fk. Holston River	do	Holston River	do	do	Nolichucky River	do	do	do	do	French Broad River	do	Tennessee River	do	W. Fk. Tuckasegee River		Little Tennessee River	do	op	op	op	Cove Creek	op	op	Clinch River	do	Tennessee River	do	. Hiwassee River	do	. Nottely River	do	. Hiwassee River	do	do	dp	. Toccoa River	фор	op
	South Holston	Watauga	Boone	Fort Patrick Henry	Cherokee	do	do	Nolichucky	do	do	do	op	Douglas	do	Fort Loudoun	do	Thorpe	Nantahala	Fontana	op	Cheoah	do	do	Carvville	do	do	Norris	do,	Watts Bar	do	Chatuge	qo	Nottely	do	Hiwassee	op	Apalachia	do	Blue Ridge	фф	op
	20-1	20-2	20-3	20-4	20-5a			20-6a					20-7		20-8a		20-9	20-10	20-11		20-12			20-13			20-14		20-15a		20-16		20-17		20-18		20-19		20-20		

I/Based on total sediments in Washington Mills, Buck, Byllesby and Fields Reservoirs; total drainage area 1,320 square miles.

Spept.—Nov. 1934.

J/Sept.—Dec. 1942.

For O'Shaughnessy elevation = 847.89. For O'Shaughnessy elevation of 845, the corresponding capacity is 405 and the c/w ratio is 29.

J/32 Correction for Maple Grove.

S/ 1932 Correction for Maple Grove.

S/ Reservoir drained and partially dredged during March and April 1949. Data on amount of material removed is unreliable. Actual amounts of sediment are probably 10 to 25 percent greater

7/ Based on capacity at base of flood control pool (top of multiple use).

8/ Includes area above Watauga Reservoir which closed Dec. 1, 1948.

9/ Based on original volume as of 1925 computed from probings obtained Feb. 1938. Capacity is at top of flash boards. Prior to 1925 Dam was 35 feet lower.

10/ Based on storage at top of flash boards.

11/ Excludes Garyville Reservoir on Cove Creek arm, Note 7/ also applies.

12/ Lose son tinclude sediment deposits before Oct. 24, 1946.

13/ Areas and volumes do not include Persimmon Creek Lake.

SUMMARY OF RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

AGE JAL ENT LATION Q MI.	TONS		1	1/2,947	3, 223	2, 294	2,035	;	1	: :	1	1	1	! !	1	1		1	321	1	1,260	1 755	2 !	553	: :	: :	287	!	1 1	1,320	, 0	200	73	1 0	100	3,485	1 6	851	1.579	1	224	176
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI. FOR PERIOD	ACRE-FT						1. 37		1	1 )	;	\$	;	4/	ને :	;		1	0.227	; ;	. 89	1 24	3 1	. 408	377	2 !	. 22	1 0	. 097	1, 10	1 0	. 990	. 067	1 0	. 301	4, 00		. 977	1.45	1	. 151	. 135
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			;	*64	*64	* 64	*64	i i	*64	* 64 * 54	1	09*	09*	- 19	*61	*61		1	*65	; ;	*65	*65	8 1	09*	: :	:	09*	:	; ;	*55	1 1	06.	*50	, ,	2 :	*40	1 :	*40	*50	-	*68	09*
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			1 1	1	1	1	1 1	-	1		;	-	1	1 :	-	!		441	439	731	725	397	321	308	384	210		18.8	13, 9	59.9	7/405	779		29.4	88.6		117	116	90.6	20.5	18.0	46.0
STORAGE CAPACITY IN ACRE-FT			14,304	12,140	11,349	10,570	8,696	109, 200	91,300	87 267	746,951	734,970	745,178	152,928	152,251	152,992		87,700	87,424	88, 500	5/87,667	85 885	3,453	3,315	35, 295	2,492	2,432	612	2.056	1,688	7/19,940	37,400	37, 390	4.0	4, 43	4, 21	15, 16	15,02	15.40	91,6	79, 9	138
PERIOD BETWEEN SURVEYS IN YEARS			;	2.9	1.3	1.8	3,0		. 28, 8	0.0	* !	6.7	7.0	0 10	6.7	7.1	RAINAGE	;	6, 25	1 (	œ .	8.25	1 1	32	25.8	0 1	23	1 0	50.6	12	1	101	3, 3	1 00		1, 1	1 ,	1.1	11	-	17.4	30
DATE OF SURVEY		Continued	Aug. 1942		_	Aug. 1948	Aug. 1950 July 1953		Oct, 1940	Aug. 1954			Aug, 1954			Aug, 1954	ERIE DE				Mar, 1945	Sent 1946			Jan. 1912 Sent 1937				Nov. 1937 1926	Dec. 1938			Nov. 1939	1915	Oct. 1938			Nov. 1939		_		June 1939
		DAM) (		- J.	Ž	Ā	- F			A A					Ju	A)	D LAKE		1		,		10,57		90°.7 Ja	11.76		∞	28.0		1	45.7 At		.31	. 05 O		. 13 0		- QT.	4,45 -	De	
GE ARE	NET	ES BAR	263	1	i	i	ii	2/96	1	i	3/1,085	i I	4/000	000/1			NT) AN	195		113	- 206	0.02		(	06			32	28		45	45								4	c	4
DRAINAGE AREA IN SQUARE MILES	TOTAL	BOVE HAL	496	1	1	l I	1 1	595	: :	: :	20,790	t 1	21 700	71,130	. :	;	IT PLEASA	199	1	121	916	210	10,75	) (	28 -	11,86	;	32, 5	28.2	1	6/49.2	48.0	1	. 32	. 05	1	. 13	1.2	7 . 1	4.47		
NEAREST TOWN		TENNESSEE RIVER BASIN (ABOVE HALES BAR DAM) (Continued)	Ducktown, Tenn	do	do	do	do	Parksville, Tenn	do	do do	Chattanooga, Tenn	do	Tonon Tonn	dasper, renn	op	ф фор	OHIO RIVER BASIN (ABOVE POINT PLEASANT) AND LAKE ERIE DRAINAGE	Perrysville, Ohio	ф.	Senecaville, Ohio	Monefield Ohio	Mansileia, Onio	Johnstown, Pa	ф фо	do	do.	ф	Mt. Pleasant, Pa	Barberton, Ohio	do	Millersport, Ohio	Leesville, Ohio	do	New Concord, Ohio	Marietta, Ohio	do	do	do	qo	Hartford, Ohio	do	do
STREAM		TENN	Ocoee River				900			000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			000	Op		OHIO RIV	Clear Fork				black Fork			Quemahoning Creek	Salt Lick Run			Wolf Creek		:	McGuire Creek	:	River	Trib, of Duck Creek	do	Trib, of Ohio River	00	op.	Ford Creek	This of Vonchiothern Direct	: :
RESERVOIR			Ocoee No. 3		do	do	000	Ocoee No. 1	do	00	Chickamauga			nates bar.				Pleasant Hill	do	Senecaville	Charlet Mill	Charles William	Hinckston Run	do	Quemahoning	Salt Lick	do	Bridgeport (Upper)	Barborton	do	Buckeye Lake	Leesville	op	Muskingum College	Ohio Conservation Pond No.22	do	Ohio Conservation Pond No. 51	Obje Conservation Dond No. 52	Olico Consei Vation Fond No. 34	Robins Lake	Conject Lake	op
DATA SHEET NUMBER			20-21a					20-22a			20-23a		00000	R47-07				21-1		21-2	01 0	21-3	21-4		21-5	21-6		21-7	21-8		21-9	21-10	;	21-11	21-12		21-13	21-14	-1-17	21-15	91-16	

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;	0.120	1	.319	. 156	1 1	9/1.38	308	) ;	. 204	t t	.376	1	. 160	1	690.	0.46		342	: :	13/.29	;	. 15	i i	. 281	1	.611	;	. 567	-	. 100	143	7	. 300	l t	1.61	1.54	. 59	. 87	)	. 759	1	. 20	1 6	1.30
1	46	1 2	*65	*65	1 }	*5U	1 tr	2 :	*100	1	*100	1	*100	1	*100	10014	201	*100	: :	*65	1 1	09*	!	09*	1	09*	;	09*	1 3	09*	7.4 0		37.9	1	55.7	9.09	*53	54, 5	1	*40	4	99	1 (	001*
36, 1	33, 5	10, 3	6.81	5, 19	97, 5	77. 1	26.0	/268	266	10/328	325	10/219	218	10/324	324	11/245	12/569	567	710	708	12, 3	9,4	12, 1	10, 1	37.8	31.0	49, 3	43.0	17.8	17.5	151	25	21	28	26	24	23	23	266	259	119	112		366
7,423	6,887	121	80	61	53, 6	42,4	70 02	127,960 10	127, 131	95, 345	94,652	74,190	73, 797	90,060	89, 968	289, 600	247 000	246, 141	49.700	49, 570	. 245	. 189	3,87	3, 24	3, 40	2, 79	1.48	1, 29	2.84	2,81	1,506	189	156	244	224	210	204	198	4,659	4,535	944	933 .	1 0	1, 200
																																										37		
_																																										Aug. 1950		
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205, 5	1	11, 75	;	4.1	. 55	0	2. 95	478	1	291	1 1	339	;	278	1 1	1, 183	434	9 1	7.0	1	. 02	-	. 32	1	60.	1	. 03	1	. 16	1	9, 95	7. 52	1	8, 70	;	1	\$ 1	1	17,53	1 1	8.36	1 6	249	1
Kent, Ohio	do	Perrysville, Ohio	do	фо	ор	do	Zanesville, Onio	Tionesta Pa	op	Saltsburg, Pa	фф	Dayton, Pa	do	Ford City, Pa	op	Grafton, W. Va	Confluence Da		Sherrodsville Ohio	op	Richfield, Ohio	do	Hudson, Ohio	ор	Parma, Ohio	do	Richfield, Ohio	ор	Peninsula, Ohio	ф.	Zaleski, Ohio	Richmond, Ohio	ор	Sumerset, Ohio	do	do	ор	фо	Burton, Ohio	op	Alliance, Ohio	do	Berlin Center, Ohio	
Cuyahoga River	do	McGuire Creek	do	do				Tionacta Crack	do	Loyalhanna Creek	op	Mahoning Creek	ф	. Crooked Creek	op		Voughioghony River			do			ф фо		ор						Sandy Kun	Town Fork Yellow River		Ctr. Br. Rush Creek		фо		do	E. Br. Cuyahoga River	qo	Trib, of Mahoning River	do	Mahoning River	do
Lake Rockwell				ф	Taber Club Lake	do	Zanesville Nursery Lake	Tionsets Crook	do.	Lovalhanna Creek	:	Mahoning Creek	do		фор	Tygart River	Venetiochom Direct				Babb Pond	Ф.	Bascom Pond	do	Christener Pond	do	Schoenbeck Pond,	do	Ticky Pond			Jefferson Lake	do	Clouse Lake	do	do	do	do	East Branch	фо	Westville Lake	ф	Berlin	
21-17		21-18a			21-19		21-20	91-91	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	21-22		21-23		21-24		21-25	91.96	07-17	21-27		21-28		21-29		21-30		21-31		21-32		21-33	21-34		21-35					21-36		21-37		21-38	

1/All values for this reservoir exclude 553 acre-feet (3.86 percent of reservoir capacity) flushed into reservoir in March 1944 by failure of small refention dam.
2/Blue Ridge Reservoir closed Dec. 6, 1930. Ocoee No. 3 closed Aug. 15, 1942.
3/Sediment contributing area reduced by closing Watts Bar Dam Jan. 1, 1942, and Apalachia Dam Feb. 1943.

4/Sediment contributing area reduced by closure of Norris Dam, March, 1938 and Chickamauga Dam Jan. 1940.

5/5ome dredging 1934.  $\overline{6}/D$ rainage area has been 115 sq. mi. (net) part of the time in the past, when fed partly by feeder from S. Fork Kirkerville River.

 $\frac{\gamma}{4}$  At present spillway elevation (lowered 0.8 foot in 1908). From 1835 to 1908 c/w ratio was 449, From 1832 to 1836, spillway elevation was lower. Originally, the lake was a natural lake. Lake originally used as a feeder for Ohio canal system.

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g/Bast Branch Reservoir and many natural lakes act as efficient sediment traps.

y/Dam failed earlier in 1938 but little sediment lost,

lost flood control pool. The sediment ranges cover the reach of the conservation pool. No
deposits were observed above a level 10 feet above the conservation pool.

I/Range lines have not been established in the upstream 40 percent of the reservoir. During the
survey no deposits were observed above the limit of the low-water regulation pool (elev. 1094).

I/Full pool considered to be 2 feet above spillway crest(c/w ratio 585). Ranges cover only a portion
of low flow regulation pool. Deposits in remaining portion were small and hardly measurable.

I/I fornservation pool was raised 14 ft, in 1947. Reservoir was empty Nov-Dec. 1946. Some sediment
was probably washed out during Oct. 1946 drawdown as channel below dam was filled with sediment.

SUMMARY OF RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

EAGE UAL LATION Q MI. ERIOD	TONS		1 6	3, 162	3/154	902	1 1	347	- ! (	675	4,396	232	392	2,001	277	3.776	1 0	343	924	301	7 1	233			1 5	1,270	486		1,020	248		2,890	099
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI.	ACRE-FT		1 6	2,64	3/.064	. 92	.31		a   i	. 55 - 1	2,75	. 20	. 34	1, 71	. 28	2. 73		. 36	1.14	1 1/2	2 1	.31			1	1.17	. 59	10. 1	. 934	. 220	. 262	2,65	. 705
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			) 1 t	*55	110.4	*45	1 ;	0 05	2 1	52.5	73,4	53. 2	* 1	53, 7	45,4	63.5	1	43.8	37.2	1 36	7 07	53.6			;	*50	42.2	7 . 7	*50		51.7	*50	43
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI			2/1, 103	903	367	362	6.18	25	92	54 200	192	25	24	124	77	71	46	32	75	114	11	တထ			331	301	100	66.2	56.6	18.7	16.1	202	220
STORAGE CAPACITY IN ACRE-FT			130, 175	106,605 640		9.6	$\frac{4}{14}$ , 400 11,600	129	148	104	2,5	929, 1	902.4	4.71	218	4.6	995	9699	58	2.4	248	205 186		ASINS	176	160 6 678	6,082	1,725	1,474	16, 930	14, 567	17.6	58,380
PERIOD BETWEEN SURVEYS IN YEARS			1 6	96	41	6,4	39			96 97	4.3	8 3	2.1	6.7	30	4	: ;	39	2,8	1 0	7.8	9,5		C RIVER BASINS	;	27	18.7	0, 4,	10,4	14.2	10.0	11.8	14.6
DATE OF SURVEY		ER BASIN	1844	Aug. 1940 1912	-	Aug. 1951	1912 1951	1912		Aug, 1951 Apr. 1947	July 1951		July 1951 Jan. 1945	July 1951	June 1949		1912	July 1951		Π.	July 1951 1939	Nov. 1948 Aug. 1951	(NISI	D MERAME	_	July 1949	Aug. 1948	Aug. 1952 Jan. 1939			June 1946 Nov. 1937		4
E AREA	NET	AUNEE RIV	93	233	1.00	. 024	2,326	5,20	1,91	. 012	1 1	0.10	. 035	1 0	2, 78	.128	21.4		# · ·	.019	22.72	1 1	IND WISCON	CASKIA, AN	0,51	0 0 0	2 :	25.8	1 1 6	305	.083	8 2	258
DRAINAGE AREA IN SQUARE MILES	TOTAL	(AN) AND M	118	291	960	070.	2,329	5, 23	1.94	. 013	1 8	2.10	. 038	- 1	2, 84	.132	21.6	34	0).	.021	22, 80	: :	MICHIGAN AND WISCONSIN)	INOIS, KASI	0.53	1 5	10 1	26.1	1 1 1	906	. 087	;	265
NEAREST TOWN		GREAT LAKES DRAINAGE (IN MICHIGAN) AND MAUNEE RIVER BASIN	Celina, Ohio	Wellston, Mich	Defiguee Objo	do do	do	do	do do	do	do	Fayette, Onlododo	Ohio City, Ohio	do	do	Horrod, Ohio	Defiance, Ohio	dodo	Cakwood, Uniododo	Grover Hill, Ohio	Findlay, Ohio	do	GREAT LAKES DRAINAGE (IN	IANA TO CHESTER) ILI	Carlinville, Ill	ор	Bloomington, Missessessessessessessessessessessessesse	Corlingille III	dodo	Decatur, Illdo	Edwordsville, Ill	op	Springfield, Illdodo
STREAM		GREAT LAKE	St. Marys and Wabash River	Pine R. of the Manistee River,	do		Auglaize Riverdodo	Eagle Creek	Beetree Creek	do	do	Mill Creekdodo.	dodo.	op	Trib. of Sandusky River	do	Sixmile Creek	op	op	do	Rocky Ford Creek	do	GREAT	MISSISSIPPI RIVER BASIN (LOUISIANA TO CHESTER) ILLINOIS, KASKASKIA, AND MERAMEC	Trib, of Honey Creek	do	Money Creekdodo	dodo	noney of eeh	Sangarron Riverdo.	Trib of Cabokia Creek		
RESERVOIR			Grand 1/		do do	Goller Fonddododo	Auglaize R. Powerdodo.	Eagle Creek 5/	Beetree Creek 5/	Batt Dond	do	Harrison Lakedodo.	Allmondinger Pond	do	Bucyrus No. 2.	Contris Pond	Sixmile Creek 5/	do	Burt Lakedo	Kohart Pond	do. Van Buren Lake	op		MIS	Artic Pond	do	Lake Bloomingtondodo.	op	Lake Carlinvilledodo	Lake Decaturdo	Shoofer Dond	Shareter Folium do do	Lake SpringfieldSugar and Lick Creek.
DATA SHEET NUMBER			22-1	22-2	200	22-3	22-4	22-5	22-6	7-66	200	. 22-8	6-66	1	22-10	22-11	22-12		22-13	22-14	22-15		23		24-1		24-2a		24 - 3	24-4	u C	0-07	24-6

-1-8	• •	2,231	2, u61	;	3, 090	;	;	;	1,228	1	1,069	1 1	640	2 411	111 40	5, 401	. !	1,632	7	1,009	1 2	509	1	957	1	462	2,144	!	2,012	!	233	a 0	260	353	20 1	1,603	197
102 11		1.97	1.82	;	3, 55	1	t )	1 1	. 94	ŀ	15.1	1	. 61	a c		. 78	1	1,43	1	1.28	1	. 551	1 1	1,02		. 50	1,81	8 8	1.72	1	. 30	1 0	. 55	177		1, 31	. 22
7 65	1	1	52	1	*40	1	7.0	1	09	1	32, 5		48. 2	41.9	7:12	31.8	1	52,4	3 4	36.2	1	42,4	8 2	43.1	1	42, 4	54.4	1	53.7	1 1	35, 6		30,2	38 7		56.2	41.2
7/30.0	315	291	268	8/199	126	1	1	170																												, –	
607	2,881	2,660	2,452	8/367	232	170, 600	151, 485	306	248	7,058	6,874	1,820	1,215	120	56.00	44.8	328	301	267	234	308, 3	238,6	459	408	61.6	53,9	43.4	67.2	56.7	3, 7	2.2	1,58	1,32	101.0	18.3	9, 4	3.4
20 4	1	12.7	12,9	1 .	21.5	1	8.3	;	35	1	12.0	1 ,	31	. 63	3 !	45	1	47	t i	43	1	13,8	1	55	1 1	35	26	1	28	1	20	1	15,6	1 4	2 I	13	1 6
1927	-	_	_	_	_	1939	1947	1935	_	_			1952	٠.		-	-	_	_	•	_	-	-	-	_	1952		_	_	-					1939	-	1943
Apr.	Dec.	Aug.	June	June	Dec.		Nov.																														Aug.
20.1	8,85	1	:	1.77	1	6	1	1.75	1	10.1	1	32, 2	1 0	0.10	348	;	. 414	;	. 600	;	9, 16	1 1	. 92	-	. 439	350	. !	. 221	1	. 091	1 3	. 052	1 0	3, 43	518		1,30
20, 2	9, 14	1	1	1.84	1	142,000	1	1.80	1 4	10.8	1	32.6	0	6. 13	.358	:	.450	-	.631	!	9,24	;	. 97	1	. 451	-1	) ;	. 231	1	.093	1	. 054		3,43	526		1,31
Macomb, Ill	Galesburg, III	op	do	Pittsfield, Ill	do	Winfield. Mo	do	Mt. Sterling, Ill	do	Jacksonville, Ill	do	do	do	400	Franklin III.	do	do	do	Concord, III	do	Waverly, Ill	do	Whitehall, Ill	фор	Roodhouse, Ill	do do	dododo	op	do	Hillview, Ill	do	Whitehall, Ill	do	Springfield, Ill	Biverion III	do	Chatham, IIIdodo
Spring LakeSpring Creek	Brush Creek.	:		Pittsfield Frib, of Panther Creek	dodododododododo	Mississippi River			:	:	dodo	Mauvaisse Terre Lake Mauvaisse Terre Creek	op	Workan Lakeda	Langdon Pond			:		:	-		:	:			woodpine Country Club Lake do	Dale Cole Pond	op op	Seely Pond B		:	:	:		Aschauer Fonddododododo	
24-7	24-8 L	:	:	24-9 P	01.30		:	24-11 M	:	24-12 L		24-13 M		V - 14	24-15		24-16 F	:	24-17 A	:	24-18 W		24-19 W		24-20 R		W 12-47	24-22 D		24-23 Se	:	24-24 V		24-25 K		24-25 A:	24-27 Sc

# UPPER MISSISSIPPI RIVER BASIN (FAIRMONT TO LOUISIANA) Iowa, Shunk and Des Moines River Basins

					*1,			T,
!	1	1	1	1	1.14	l i	. 977	1,12
1	1	1	1	1	09*	†	;	26
;	;	!	1	47.5	32, 5	10/32, 4	20,8	8,6
479,550	370,300	337,000	312,216	099	452	425	273	112
;	15	10	80	1	13.3	1	11.9	11.0
1913	June 1928	June 1938	June 1946	May 1934	Sept. 1947	Sept, 1924	Aug. 1936	July 1947
6	J¦	1	1	13.8	1	13,0		;
119,000	. :	1	1	13, 9	1	13, 1	-	1
Joi No. 18 (Lake Cooper, Mississippi River Keokuk. Jowa		dodo.	dodo.	Pine Creek		Fitch Creek	ران عاد الله الله الله الله الله الله الله ال	dodo.
Foot No. 13 (Lake Cooper, Keokuk Dam)	do	do	Op	Unner Pine	op op	Take Calhoun	90	op
707						: -	1	: :

1,490 1,190 1,370

1/ Drains into Wabash River and Lake Erie. Originally built as a canal feeder lake. Also known as Lake St. Marys. St. Marys. 2/ At present spillway elevation (lowered 5.37 feet in 1856). In 1844 c/w ratio was 1.870.
3/ Above crest deposits were measured only within original reservoir area. Additional above crest deposits undoubtedly extends far upstream.
4/ Capacity and sediment figures that of several tributary arms including Beetree, Eagle, and Sixmile Creek.
5/ Tributary arm of Angulaize River Power Reservoir.

g/ Turbidity records indicate that an average of 75 tons annually per square mile of drainage area have passed over spillway. Total annual sediment load per square mile, 1922-46 was 341 tons.

T/ At top of 13 foot flashboards added in 1946.

F/ At tope of 13 foot flashboards added in 1946.

T/ At top of 13 foot flashboards added in 1946.

T/ At top of 13 foot flashboards added in 1946.

T/ At top of 13 foot flashboards added in 1946.

T/ At top of 13 foot flashboards added in 1946. Original c/w ratio was 21.8. All sedimentation and storage loss data based on higher spillway elevation.

\* Estimated or assumed.

SUMMARY OF

AGE AL SNT ATION Q MI. RIOD	TONS		1,580	7 740	1,960	*1,990	1,960	4,460	5. 280	340	1 6	120	3, 327	7 1 0 1	695	: ;	;		2,823	!!	4 1				: :	;	; ;	1 3		127	134
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI.	ACRE-FT		1.45	4	1.06	1,52	1.06	2.41	2.85	24	1 1	-476	2,96	000	. 638	; ;	1	: ;	2, 16	. 001	7 00	*			197	51	474 832	119		. 078	. 082
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			*50	in 1 00 1 *	, w ;	09*	*85	*82	. *	1 K	2 ; ;	0/4	*51,6	0.10	*50	: :	}	: :	09*	: :	1 1				: !	:	}	1 1		1 1 2	1.07
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			138	*46,2	32.0	36, 0	39 24	40.0	42, 4	36, 3	16.9	101	00 0	88.1	81,9	1 1	;	398	369		9.				0.4	4	4 4	্বা ব		5, 24	4.00
STORAGE CAPACITY IN ACRE-FT			406.3 368.2	*2,400	*1,664	252	3,000	3,080 2,556	*2,800	1,154	4.0	207	166	133	172	106,347	89,850	896	831	70,800	78,040		RAINAGE		39, 432	38, 229	39, 224	37,881		608 539 473	67.5
PERIOD BETWEEN SURVEYS IN YEARS		tinued)	23, 4	1 0	0 00	80	15	ا س	, ec	1 =	: ;	12	2		10	11,7	1 -	1.00.1	14.0	15.6	4		AND LAKE MICHIGAN DRAINAGE		1 4	6,2	2,1	2.0	*	7.6	0.7
DATE OF SURVEY		SIANA) (Con	Mar, 1926 Aug, 1949	Dec. 1936		1932			Dec. 1936 Dec. 1939		1903	1925	1 3	July 1933	1946			Sept. 1937		Aug. 1938 Mar. 1954			AND LAKE M		Mar 1934		Dec. 1946 Nov. 1948			July 1934 Feb. 1942	Feb. 1949
E AREA	NET	T TO LOUR River Basins	2,88	50,2	15 24	F 1 E 1 C 1	1,72.7	1/72,7	1/59.6	31.6	2,52	2,92	. 1	2, 1	1 6	/2	2/	2, 13		/2	2/		K ISLAND) A	r Basins	2/	1	; ;	1 1		116	1
DRAINAGE AREA IN SQUARE MILES	TOTAL	V (FAIRMON Des Moines	2,94	52.0	15 24	1 1 1	7.7.0	77.0	0.99	31.8	2.54	2,98	2, 98	2, 1	100		134,300	2, 25	1 0	99, 600	135,000		EN TO ROCI	ipinicon Rive	88, 500	;	: ;	1 1		116	1
NEAREST TOWN		UPPER MISSISSIPPI RIVER BASIN (FAIRMONT TO LOUISIANA) (Continued) lowa, Shrunk and Des Moines River Basins	Carthage, Illdododo		do	dodo	New Canton. Ill do	do	do	Hampton, Iowa	Madrid, Iowa	Fairfield, Iowa	do	Guthrie Center, Iowa	do	Muscatille, 10wa		Bloomfield, Iowa.	ф	New Boston, III			RIVER BASIN (PRAIRIE DU CHIEN TO ROCK ISLAND)	Rock and Waosipinicon River Basins	Rock Island, Ill-Iado	do.	do	do		Strawberry Pt., Iowa	
STREAM		UPPER	Long Creekdodo	McCraney Creek	do	dodo	Hadley Creekdodo	op	Kiser Creek	Unnamed Stream	Trib. of Big Creek	Crow Creek.	do	Spring Brook	dod	wississippi vivei	do	op.	do	do	do		UPPER MISSISSIPPI RIVER		Mississippi Riverdo.	do	000	do		Maquoketa Riverdodo.	
RESERVOIR			Carthage	McCraney Cr. New Desiting Basin	dodo	dodo	Hadley Cr. Old Desilting Basin.,	Hadley Cr. New Desilting Basin	Kiser Cr. Desilting Basin	Beeds Lake	CMSt. P & PRR Res 3/	Fairfield No. 3.	do	Springbrook	do	do d	Pool No. 20.	Bloomfield	ор	P001 No. 17	Pool No. 21.				Pool No. 15do.	ор	do	do	Backbone Lake (Forestville	Lake)do.	
DATA SHEET NUMBER			25-4	25-5	9	0-07	25-7	25-8	25-9	25-10	25-11	25-12a		25-13	u c	11-07	25-15	25-16		11-67	25-18				26-1a				26-2		

) I ) I		1	384	1	40	;	158	1	1,400	:	;		
.014		1	0.252	;	.023	;	. 100	-	. 717	;	!		
: :		:	*70	;	*80	1	72.5	1	06*	}	06*		
2, 1		11.4	7.6	2.50	. 91	12.1	4.93	1	1	1	1		
171,684		683	457	127	46	1,677	683	100,000	91,851	30,000	28,690		
14.8	<del>2</del>	1	15	4	68	1	7.2	.1	19	1 4	9.6		:
Apr. 1938 Feb. 1953	IE DU CHIEN Basins	1926	Oct. 1941	1871	June 1939	1867	June 1939	1914	1933	July 1936	Feb. 1945	PAUL)	
12	TO PRAIR	09	;	50.70	1 8	138.2	E 5	4/600	;	2/	1	BOVE ST.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
81,600	Va, and St. C	09	-	50.75	1	138.6	1	8,900	-	59, 100	1	R BASIN (A	1
Dubuque, Iowadodododododododododododododododo	UPPER MISSISSIPPI RIVER BASIN (ST. PAUL TO PRAIRIE DU CHIEN) Wisconsin, Root, Chippewa, and St. Croix River Basins	Eau Clare, Wisc	ф	Ettrick, Wisc	do	Galesville, Wisc	do	Prairie du Sac, Wisc	ф	Winona, MinnWisc 59, 100	do	UPPER MISSISSIPPI RIVER BASIN (ABOVE ST. PAUL)	
	UPPER	Elk Creek	-cp	N. Br. Beaver Creek	do		do		ф	Mississippi River	do		
Pool No. 11. Mississippi Riverdodo		27-1 Elk Creek Lake Elk Creek.	do	Ettrick Mill Pond	do	Marinuka (Davis Lake)	do.	Prairie du Sac			do do		
26-3		27-1		27-2		27-3		27-4		27-5			

# LAKE SUPERIOR AND LAKE OF THE WOODS AREA (IN MINNESOTA)

30-1 Lake Bronson	Two Rivers	Bronson, Minn			1940		3, 792	8.64	1	;	;
do	do	do			. 1950		3,626	8, 26	30,94		25.6
razee	Otter Tail River	Frazee, Minn			1926		155	. 738	1		1
. do	do	do			y 1952		137.1	. 653	20.0	. 029	12,6
	. do	do	do Otter Tail River.	210	210 24	210 24	210 24	24 1950 210 24 1926 May 1952	210 24 1926 May 1952 26	210 24 1926 10 3,626 8.26 210 24 1926 155 .738 May 1952 26 137.1 .653	210 24 1926 10 3,626 8,26 30,94 0,038 210 24 1926 155 .738 May 1952 26 137.1 .653 20.0 .029

# MISSOURI RIVER BASIN (NEBRASKA CITY TO HERMANN)

;	598	;	4,200	1	3,990	1 1	703	1	15, 770.	F t	3, 386		:	3,568	!	3,685	!	3,874	!	511
}	0.464	;	3,87	1	2,93	:	. 538	ì	8,58	1	2, 53		-	2, 73	!	2,82	1	2, 86	!	. 477
:	59.2	1	49.9	1 1	62.5	1	09*	;	84, 4	1	61,45		1	09*	:	*60	;	62.2	1	49, 15
149	141	57.0	15.6	30, 3	1,84	82	7.7	98.3	14.6	1,023	985		863	854	183	167	227	192	68, 2	55.7
2,087,223	1, 972, 531	9, 46	2, 59	31,80	1,93	3,452	3,207	159, 2	23, 6	3,916	3,771		1,889	1,870	33	30	1,852	1,563	365	298
;	17.8	1	10,9	;	9.8	1	11	;	10.0	1	16.1		1	4.0	;	6,9	1 1	13,0	1	26.4
Feb. 1931	Oct. 1948	June 1938	May 1949	July 1939	May 1949	1929	June 1940	1920	June 1937	Sept, 1931	Nov. 1947		1935	Aug. 1939	Nov. 1930	Oct, 1937	1924	May 1937	Apr. 1913	Sept. 1939
13, 900	1	. 163	1	1,04	1	41.5	1	1,58	-	3,56	1		1,79	ì	. 17	1	7.76	t	5, 28	1
14,000	1	. 166	;	1,05	:	41.9	!	1,62	1	3, 83	1		5/2, 19	1	. 18	:	8, 15	1	5, 35	1 1
Eldon, Mo.	ф	Stanton, Iowa	do	Westboro, Mo	do	Springfield, Mo	do	Blair, Kans	do	Tonganoxie, Kans	do		Reading, Kans	do	Ottawa, Kans	do	Horton, Kans	do	Moran, Kans	do
Osage River.	do	Trib, of Nodaway River	do	Trib. of Tarkio River	do	Little Sac River	do do	Chase Creek	do	Unnamed Trib	ор		qo	ор	Osage River	do	Mission Creek	do	So. Fk. Osage River	ор
Lake of the Ozarks (Bagnell Dam)	do	Carl Chinquist	do	L. H. Fuelling	do	McDaniel Lake	Doniphan Co. Old Desilting	Basin	ф	Leavenworth Co. State Lake	do	Lyon Co. State Lake (Reading	Lake)	do	Martin Farm Lake	do	Mission Lake	do		do
31-1		31-2		31-3		31-4	31-5			31-6		31-7			31-8		31-9		31-10	

 $4/\mathrm{Flow}$  from 8, 300 sq. mi. of drainage area passes through power dams which act as traps,  $\overline{5}/\mathrm{Excluding}$  area of lake and 0.31 sq. mi. above stock pond. \*Estimated or assumed.

 $<sup>1/{\</sup>rm Excludes}$  Mississippi River bottom land,  $\frac{2}{4}/{\rm Indeterminate}$  .  $\frac{2}{3}/{\rm Reservoir}$  no longer visible on 1939 aerial photos.

SUMMARY OF

Z	NS		22 23 14 50 50 50		98,6 138 550		34		167
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI.	T TONS		2,421 3,023 2,614 2,614 3,010 15,250 1,170 2,760		111111111		934		
1	ACRE-FT		1.00   1.		. 681		0.66		. 106
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			4.00 * * * * * * * * * * * * * * * * * *		# # 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		*65 *55 57,3		* 77. 17. * 7. 1. 1. 1. 5. 6
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			116 107 187 187 183 46,2 31,4 66,2 31,4 103 81 411 81 411 140		4 4 4 8 . 9 4 4 4 6 . 9 4 4 6 . 9 6 7 7 7 5 6 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		34,6 30,9 6,1 3,4 140,8 138,6		22, 9 18, 7 25, 3 25, 1 24, 4 12, 42
STORAGE CAPACITY IN ACRE-FT			721 666 488 408 28,00 28,00 33,00 33,7 33,7 511 1,111 1,050 1,250 1,231 860		1,001 930  436 450,000 446,000 +442,000	PLATE)	519 464 15.64 8,83 92,340 90,920	(ABOVE SUBLETTE)	3,834 3,126 9,802 9,710 9,424 73,810 67,840
PERIOD BETWEEN SURVEYS IN YEARS		(pa	12.1 12.1 28 26.3 1/6.9 25.5. 11		10.8	TO NORIH ATTE)	12.9		7 43 2.25 1,000 1,000
DATE OF SURVEY		TO HERMAN) (Continued)	July 1932 June 1937 July 1949 Oct. 1937 Aug. 1942 Aug. 1948 July 1954 May 1949  1913 Nov. 1939 1956 Feb. 1950	BASINS	1929 Apr. 1937  Aug. 1948 July 1946 Nov. 1950	. LARAMIE TO NORTH PLATE) O NORTH PLATTE)	Oct. 1931 May 1937 Aug. 1939 July 1952 Aug. 1949 Oct. 1951	_	1890 Aug. 1933 5/ Mar. 1936 June 1939 Feb. 1927 Jan. 1931
DRAINAGE AREA IN SQUARE MILES	NET		6.11 2.07 2.07 064 505 505 505	REPUBLICAN RIVER	2/2,308	BASINS (FT BLETTE TO	2,558	H PLATTE	166.9 386  6/5,400
DRAINAC IN SQUAF	TOTAL	BRASKA CIT	6.20 2.17 . 065 . 509 4.98 2.70 6.15		20,47	re, river i r basin (su	3/15,00	AMIE) SOUT	387
» NEAREST TOWN		MISSOURI RIVER BASIN (NEBRASKA CITY	Olathe, Kans.  do.  Richmond, Kans.  Howe, Nebr.  Tarkio, Nebr.  Od.  Allerton, Iowa  Centerville, Iowa  Bedford, Iowa.	SMOKY HILL AND LOWER	Bennington, Kans	UPPER REPUBLICAN, NORTH PLATTE, RIVER BASINS (FT. LARAMIE TO NO AND SOUTH PLATTE RIVER BASIN (SUBLETTE TO NORTH PLATTE)	Wellfleet, Nebrdodododododo	ASIN (ABOVE FT. LAR	Denver, Colodododododdo
STREAM		MISSC	Cedar Creek.  do.  Unnamed Trib.  do.  Trib. of Muddy Creek.  Trib. of Tarkio Creek.  South Chariton River.  South Chariton River.  Manson's Branch.  E. Fk. 102 River.	SW	Sand Creek	UPPER REPUI	Medicine Creek.  Unnamed Trib. of N. Platte R. do.  Medicine Creek.	ER 1	Cherry Creek
RESERVOIR			Lake Olathe.  do. do. Richmond. Lampe Farm Pond. E. W. Howel. Allerton. Centerville No. 2. Lake of three Fires.		Ottawa County State Lake		Welliteet. do. Lockhart Farm Pond do. Harry Strunk Lake (Medicine Creek Dam).		Castlewood  Kenwood  Good  Good  Good  Guernsey
DATA SHEET NUMBER			31-11 31-12 31-13 31-15 31-16		32-1 32-2 32-3		33-1 33-2 33-3		34-1 34-2 34-3a

44.0 6.80	.5 38,7 8 138 153		7,670	_					.4 3,280 1 3,190							1,904			11 1,950		17 5,270		30,900		3, 420 3, 420	
2.2.1.2.26	. 025		6,41	9.51	4.41	3,75	3,77	5.87	2,354	2.50	53.9	6.35	2.11	2.68	4.67	1.41	2.97	2,19	1,68	1,85	4,417	1 - 1	8, 26 16, 3	1 6	3,601	
3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* 70 * 81.1		54.9	63.2	56.2	69,8	71.4	63, 1	63,9		83.2	58,3	47.8	*61.8	56.7	62.0	56.9	59,7	53.2	51,9	54.8		69. 1 87. 1	1 1	56.3	
11. 82 11. 44 11. 08 11. 08 10. 05 9, 83 9, 10	98.7 98.7 94.0 97.0		14.3	46.1	21.7	6.74	4.00	6, 78	179 158 148	114	149	87.5	113 98	94	98.6	61.1	84	2,13	61.0 46.5	38.8	285	164	126 57.1	147	125	ڻ و
65, 050 62, 940 60, 930 56, 430 56, 600 53, 180 49, 150 44, 800	79,064 77,958 1,056,300 1,015,876 1,020,000	NORTH PLATTE)	6,91	4.61	4.51	1.26	. 22	2.90	14. 48 12. 82 11. 98	10.18	19,39	18, 98	254.2	221.5	15,28	9, 47	16.8	2,06	11.23	7.14	10,83	16, 44	12, 56 5, 71	43.80	34.63	5/ Dam failed in 1933, survey made in 1939. $\overline{6}/$ D. A. below Alcoa Dam. $\overline{7}/$ Area above Seminoe Dam which was closed in 1939 is excluded. * Estimated or assumed.
2. 00 2. 00 2. 00 2. 00 3. 00 3. 00 5. 92	31 41.1		4.6	7.9	0.6	10.3	10.1	3.9	8,4	8.8	2.8	4.6	6.9	1.7	0 1 0	4.2	12.0	11.75	7.8	3, 2	7.8	3.2	8.4	. 1	3.2	e in 1939. was closec
Jan. 1933 Jan. 1935 Feb. 1937 Feb. 1939 Jan. 1944 July 1947 June 1953	Oct, 1900 Sept. 1931 June 1909 July 1950 1939 Sept. 1950	RIVER BASIN		June 1	May 1	Apr. 1	Apr. 1	May 1	.079 Dec. 1940 May 1949 June 1952				Feb. 1			July 1953	Nov.	July 1	.182 June 1941 Apr. 1949		Apr. 1		Apr. 1	-	Apr. 1949 June 1952	933, survey mado oa Dam. inoe Dam which umed.
11:11:11	1, 460 T/3, 315 7, 317	() PLATTE	į	1	i I	1	1	1	1 1	1	;	i	2.23	1 1		1 1	1	;	1	1	-	1	1 1		1 1	/ Dam failed in 1933, s / D. A. below Alcoa Da / Area above Seminoe I Estimated or assumed
11::::::	1,766	ASKA CITY	0,159	. 100	002.	. 161	. 043	. 428	. 081	680.	. 130	.217	2,26	h	.155	1 1		. 075	. 184	. 038	1 1	. 100	1 1	. 297	1 1	5/ Dam 6/ D. A. 7/ Area * Estim
00000000000000000000000000000000000000	Deckers Colo	(ABOVE BLAIR TO NEBRASKA CITY) PLATTE RIVER BASIN (BELOW	Rickets, Iowado	Logan, lowadododo	Elknorn, lowadodo	Denison, Iowadododo	op	Dunlap, Iowadodo	Stennett, Iowadodododo	Charter Oak, Iowa	Dow City, Iowa	Ute, Iowa	Pisgah, Iowa	do	Denison, lowa	do	oy racuse, medi	op	Aspinwall, Iowa	op op	op .	Denison, Iowa	do	do	do	l again Dec. 1940, crest is estimated to retain 0.04
do. do. do. do. do. do. do. do.	our Trate A. and Goose or Lost Park Creek North Platte River do	MISSOURI RIVER BASIN (	Trib. of Soldier River	Trib. of Willow River	Trib, of Elknorn Kaver	Trib. of Boyer Kiverdodo.	dodb	do	Trib. of E. Nishnabotna R	Trib. of Middle Soldier R	Trib, of Boyer River.		Jones Creek		Trib. of Boyer River	do	irib, of L. Memena hiver	op		op	do	Trib, of Boyer River	do	ф	do do	June 1937, silted ful c. 1950. ing drainage. 33 square miles and
do. do. do. do. do. do. do. do.	Lake Cheesman. do. Pahfinder. Seminoe.			Fred Browndo	William Esbeckdodo	G. & A. Evers Lower Res	G. & A. Evers Upper Res	Charles Fienholddodo		Otto Goslar	odkin	Fred Hollrah	Jones Creek	op				Peterson Farm Ponddo.		do d	dodo.			Wilbur Meyer	do	1/ Reservoir silted full Dec. 1936, crest raised June 1937, silted full again Dec. 1940, crest raised again May 1945, silted full again May 1949.  2 // 1,860 prior to closure of Cedar Bluff Dam Dec. 1950.  3 // 1,860 prior to closure of Cedar Bluff Dam Dec. 1950.  4 // D. A. includes a partial sediment trap for 0.133 square miles and is estimated to retain 0, acre-feet of sediment per year.
6	34 - 4 34 - 5 34 - 6		35-1	35-2	35-3	35-4	35-5	35-6	35-7a	35~8	35-9	35-10	35-11a		35-12a	;	35-13	35-14	35-15a	20 100	201-00	35-17a		35-18a		1/ Rese raised agi 2/7,860 3/ Exch 4/ D. A.

RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953 SUMMARY OF

AVERAGE ANUGAL SEDIMENT ACCUMULATION PER SQ MI.	TONS
AVEH ANN SEDIM ACCUMU PER S FOR PI	ACRE-FT TONS
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT	
CAPACITY SPECIFIC WATER- WEIGHT SHED IN LBS ACRE-FT CU FT PER SQ MI.	
STORAGE CAPACITY IN ACRE-FT	
PERIOD BETWEEN SURVEYS IN YEARS	
DATE OF SURVEY	
DRAINAGE AREA N SQUARE MILES	NET
DRAINAC IN SQUAR	TOTAL
NEAREST TOWN	
STREAM	
RESERVOIR	
DATA SHEET NUMBER	

AVERAGE ANNUAL EDIMENT UMULATION PER SQ MI. OR PERIOD	TONS		;	5,690	2, 110	1 7	8,175		3,930	3, 740	4,410	3, 120	756		202	!	283	1	1,005	3, 709		;	431	1	2 300	1,240	;	7,300	1 4 4 4	17	1,246	{	2/34.015	2/6, 211	1	2,070	29, 768	; ;	3/	13, 319	ने <del>।</del>
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI.	ACRE-FT		:	4,005	1,39	"	5, 17	2 1	3, 29	3.09	3,84	2.57	434	, ,	. 39	1	. 20	1	. 71	2,62		;	0,462		1.04	86 *	;	4,91		00.	1,04	1		2/3.67	B I	1, 25	17.96	: :	3/	. 41 2, 41	ر و
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			;	65, 2	69. 7	1 0	74.5	1	54.8	55, 5	52, 7	55.7	08	;	*65	1	*65	1 1	*65	*65		;	42.8	46 0	*57.8	57.8	1	68,3	1 11 11 11	1	*55	1	#77.7	477.7	77.7	*76, 1	76.1	76. 1	*72.7	72.7	1.2.1
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.		nued)	196	159	144	223	176	123	98.6	86, 9	163	153	26	; ;	1	6	00	43	1140	104		21, 8	16.8	133	117	114	29. 4	12.0	10,5	10	00	213	198	195	195	193	176	176	113	105	213
STORAGE CAPACITY IN ACRE-FT		BASIN (BELOW NORTH PLATTE) (Continued)	43.84	35, 46	32, 10	53, 19	41, 94	41, 35	33,08	29, 23 48, 64	40.04	37, 41	1,066	1	1	15, 6	13, 9	15, 40	30.74	28.03		899, 0	692, 1	52,5	44.5	43,3	674	275	4.09	25, 19	20, 10	37,95	35, 25	34,80	34,80	37.8	34, 4	34, 4	8, 45	7,80	103, 2
PERIOD BETWEEN SURVEYS IN YEARS		W NORTH	1	7.5	3, 1	1 1	3.1	; ;	4.5	3, 1	9,4		32.9	;	2	;	5	! ,	# ;	4,	BASINS	1	10.9	i °	1.5	2, 4	;	3, 8		;	2	1 1	. 87	. 73	. 60	1, 37	1.01	1, 31	1,42	. 98	20.1
DATE OF SURVEY		ASIN (BELO				Mov. 1941	June 1952		Apr. 1949	June 1952 Nov. 1939		July 1953 May 1915		_	Aug. 1953	Aug. 1948	Aug. 1953		Aug. 1933 Aug. 1949	Aug. 1953	SIOUX RIVER	July 1938		Mer. 1940		Feb. 1953	_		July 1947	-	_		Aug. 1951		Nov. 1952 Mar 1949		July 1951	Nov. 1952 Mar. 1949		Aug. 1951	
E AREA S MILES	NET	RIVER	0,218	;	1 0	822.	; ;	. 330	:	. 238	:	41	;	. 18	;	1.79		. 354	. 26		AND BIG	41.1		27.6 .	ŧ	;	21.4	1	40.4	2,45	1 1	. 169	1	1	186	. 1	;	690,	. {	1 1	. 442
DRAINAGE AREA IN SQUARE MILES	TOTAL	CITY) PLATTE	0,223	1	5 0	. 233		. 336	1	. 245	1	500	;	. 18	1	1,80	1	. 358	. 27	1	LAIR) JAMES	41.3	-	580.	-	!	22.9	1 1	. 408	2, 46	1	. 178	}	1	196	0 1	1	. 075	;	: :	. 483
NEAREST TOWN		(ABOVE BLAIR TO NEBRASKA	Macedonia, Iowa	do	do	000	op	Denison, Iowa	do	Vail, Iowa	ор	Ericson, Nebr	op	Dannebrog, Nebr	ор	Loup City, Nebr	do	Farewell, Nebr	op	do	(NIOBRARA TO ABOVE BLAIR)	Ihlen, Minn	do	wasnta, lowa	OD	ор	Bronson, Iowa	ф фо	Mayneld, S. D	Volin, S. D.	do.	Mapleton, Iowa	do	ф	Manleton Iowa	ф	do	ор	do	do	Anthony, Iowa
STREAM		MISSOURI RIVER BASIN (ABOVI	Trib, of W. Nishnabotna R	do.	00	do do	· · · · · · · · · · · · · · · · · · ·	Trib, of Boyer River	do	0 do	do	Cedar River.	do	Unnamed Trib, of Turkey Cr	Unnamed Trib, of Dead Horse	Creek	op	Unnamed Irib, of Oak Cr	Op	ф.	RIVER BASIN	Trib, of Big Sioux River	do	I FID. OI ASHION Creek	0p	op	Farmers' Ditch	doin de	Onnamed 1rib. of Clay Cr	Unnamed Trib. of Clay Cr.,	do	do.	op	do	do	do	do	op	do	dodo	op
RESERVOIR		CM.	Max Miller No. 1	do	Max Millor No. 5	Max Miller NO. 5	op.	Barney Mundt	do	Tracy North	dod	Lake Ericson.	фор	Roe Farm Pond	Howe Farm Pond		dodo	Woller Farm Fond	Ruzicka Farm Pond.	ор		Split Rock	do	do.	do	Farmore' Ditch Old Decilian	Basin	Church Econ Don't	of and Farm Folia	Broderson Farm Pond	Moston Ilmon December	Masters Upper Reservoir	do	do	Nepper Main	ф	do	Nepper Southwest	do	do	Theobold Main
DATA SHEET NUMBER			35-19a		35.200	D07-00		35-21a		35-22a		35-23		35-24	35-25		200	07-00	35-27			36-1	36 36	200		36-3		36.4	1000	36-5	36.6	30-00			36-7			36-8			36-9

002 442 28 28 113 97 80 60 46		153																	21
28, 502 2, 142 11, 228 11, 313 11, 313 1, 597 5, 780 4, 560 1, 146		1 1 1	1.1	1 1	; ;	; ;	; ;	; ;	} }	; ;	1 1	ií	ii	i i	1 1	; ;	1 1	1 1	
181 1.36 1.36 7.65 1.08 3.60 3.63 2.86 .72		0.17	. 822	458	. 539	. 285	. 521	1,389	. 200	799	859	. 508	. 443	. 631	.811	2, 206	. 700	474	
* 67.9 67.9 67.9 73.1 73.1		41.3	: :	: :	::	: :		; ;	1 1	1 1	; ;	11	1 1		1 1	1 1	) I	i I 1 1	
195 194 185 185 138 137 134 199 199 191 191 191		32. 1 27. 2 13. 2 9. 64	82.3	34.2	18.2	12.4	54.3	118 107	17.9	63, 3	61,8	29. 6 25. 4	36, 3	36, 2	25, 0 18, 5	38.8	36. 1 30. 6	27.4	
94. 0 93. 5 89. 2 87. 2 84. 5 94. 5 94. 3 94. 5 19. 5 18. 6		18.61 15.78 4.34 3.18	16.7	34.0	13, 6	31.8	9, 1	28.9	8 ° ° °	e, e	13, 9	14, 1	44,3	18.4	2.7	5, 2	2.6	3, 2	
1, 15 1, 38 1, 38 1, 38 1, 70 1, 71 1, 71 1, 42		28	, e	9,3	9, 2		8.7	8,7	8.7	7.7	8.3	, eo	8, 1	7.2	7.7	7.7	7.7	7.7	
1950 1951 1951 1950 1951 1952 1950 1951	(A)	1907 1937 1911	1936 1945	1936 1945	1936 1945	1936 1945	1936 1 <b>945</b>	1936 1945	1936 1945	1937 1945	1937 1945	1937 1945	1937	1938 1945	1937 1945	1937 1945	1937 1945	1937	
Aug. May Oct. July May Nov. July May Nov. July Oct.	OBRAR	May June May June	Mar. July	Mar. July	May July	Apr. July	Oct. July	Oct.	Nov. July	Nov.	Mar. July	Mar. July	June	May July	Nov.	Nov. July	Nov.	Nov. July	
	RE TO NI Basins	. 33	. 197	. 981	. 742	2,541	. 163	. 234	. 511	. 144	. 220	. 472	1, 209	. 502	.106	.131	. 070	. 116	gible. ied.
	ER BASIN (ABOVE PIERRE TO Niobrara and White River Basins	0.58	. 203	. 995	. 7 18	2, 555	. 166	. 245	. 514	. 147	. 225	. 477	1, 222	. 508	.108	48.	. 072	.117	3/Negligible. *Assumed,
dodododododododo.	MISSOURI RIVER BASIN (ABOVE PIERRE TO NIOBRARA) Niobrara and White River Basins	Hayes, S. Ddodododo	Pierre, S. D	do	op op	op	do	do	do	do	dodb	do	do	op	do	op	do	do	of settlement.
0 c c c c c c c c c c c c c c c c c c c		Br. of Frozenman Creek dodo	Unnamed Trib, of Bad Rdodo.	River. do.	Unnamed Trib, of Bad Rdododo	Riverdo	Unnamed Trib, of Bad R	Unnamed Trib, of Missou Riverdo	Unnamed Trib, of Bad R	Unnamed Trib, of Missouri River	do	opop	do	op	op	Unnamed Stream (Interior drainage)	Unnamed 1715, of Missouri River do	Unnamed Trib, of Bad R	to settlement of dam, nen capacity increased because
do. Theobold Lateral C. do. do. Theobold Lateral D. Theobold Lateral D. Theobold Lateral D. Theobold Lateral D.		Elkins Stock Pond No. 1 do Elkins Stock Pond No. 2 do	Land Utilization Project No. 226-1. do.	No. 226-2.	No. 226-4	No. 226-6	Land Utilization Project No. 226-13	Land Utilization Project No. 226-21	Land Utilization Project No. 226-22	Land Utilization Project No. 226-25	Land Utilization Project No 226-31	No. 226-32	No. 226-34	No. 226-35	Land Utilization Project No. 243-1	No. 243-2	Land Uthization Project No. 243-5.	Land Unlization Project No. 243-6.	$1/\ln crease$ in capacity in 1956 was due to settlement of dam. $2/\ln ces$ not include 1949-1950 period when capacity increased because
36-12		37-1	37-3	2 6	0 0		3.7-7	37-8	37-9	37-10	37-11	31-12	01-10	1 P	31-13	21-10	37-17	37-18	1/Inc 2/Do

SUMMARY OF

SE LL NT NTION MI.	TONS		1 1	; ;		202	93, 4					1,478		1 1		1 1	1 1	: : :	1 1 1	: :	1 1	1 1
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI.	ACRE-FT		0, 222	. 266		0, 16 .	. 08					1.74		0,353		2,63	0 17	. 4.0	99 .	196	1 7	ন   তা
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			1 4	1 1		58, 1	53,6					39 70.5		1 1		: :		6 6   11 10	1 1 1	1 1	1 1	1 t 3 1
CAPACITY WATER- SHED RATIO IN ( ACRE-FT PER SQ MI.			6.94	13.3		13, 4 9, 69	7, 06					145 96.5 41.67 39.91		310,09		119	111	212	41 40	9, 54	494	2/864 2/864
STORAGE CAPACITY IN ACRE-FT			3,7	4. c. c. c.		2, 56 1, 85	4, 30					756 502 72, 510 69, 439		455,838 439,851		494	481 289	13,810		43,980	336,000	1, 560, 500 2/1, 560, 500
PERIOD BETWEEN SURVEYS IN YEARS		d)	7,1	7.0		25.0	29.0	W				29.1		1 1	BASIN	0.4	11.0	6. 73	2.7	2 66		
DATE OF SURVEY		RA) (Continue	June 1938 July 1945	July 1938 July 1945	PIERRE)	1912 June 1937	1908 June 1937	RIDGE) i River Basin	(STON)	0		May 1908 May 1937 May 1939 Oct. 1948		1910	RIVER	June 1935 Nov. 1935		Nov. 1935 Feb. 1936	Sept. 1937 May 1940			
DRAINAGE AREA IN SQUARE MILES	NET	TO NIOBRA Basins	0,532	. 338	TO ABOVE		909.	ON TO MOBRIDGE)	N TO WILL! Basins	S ZORTMAN	ER BASIN Basins	5.01	ER BASIN	1,460	TO LITTLE ROCK) WHITE	4,11	2,57	64	15	4,606	652	1,772
DRAINAG IN SQUAF	TOTAL	3ASIN (ABOVE PIERRE TO NION NIODERARA AND AND NIOPERARA AND WHITE RIVER BASINS	0,533	. 339	(MOBRIDGE le Fourche F	0, 191	. 609	N (WILLISTO leart, and Li	N (ZORTMA) elshell River	ASIN (ABOVI	WSTONE RIV	5, 20	STONE RIVI	1,470	TO LITTL	4, 16	2,60	65	15, 2	4,610	089	1,806
NEAREST TOWN		MISSOURI RIVER BASIN (ABOVE PIERRE TO NIOBRARA) (Continued) Niobrara and White River Basins	Pierre, S. D	do	MISSOURI RIVER BASIN (MOBRIDGE TO ABOVE PIERRE) Cheyenne and Belle Fourche River Basins	Gettysburg, S. D	do do.	MISSOURI RIVER BASIN (WILLISTON TO MOBRIDGE) Moreau, Grand, Cannonball, Heart, and Little Missouri River Basins	MISSOURI RIVER BASIN (ZORTMAN TO WILLISTON) Milk and Musselshell River Basins	MISSOURI RIVER BASIN (ABOVE ZORTMAN)	LOWER YELLOWSTONE RIVER BASIN Tongue and Powder River Basins	Baker, Montdodododo.	UPPER YELLOWSTONE RIVER BASIN	Cody, Wyododododododododododododododododo	RIVER BASIN (VANBUREN	Conway, Arkdo.,	Booneville, Ark	Mountainburg, Ark	Morrilton, Ark	Branson, Mo.	Nimrod, Ark	Norfolk, Arkdodo.
STREAM		MISSC	Unnamed Trib, of Missouri Riverdo	do		Trib, of L, Cheyenne Creek	Little Cheyenne Creek	Mor				Sandstone Creek		Shoshone Riverdodo.	ARKANSAS	East Fork ('reekdo	Trib, of Petit Jean Creek	Jack and Jones Creeks	Cedar Creekdo	White River	Fourche La Fave River	North Fork River.
RESERVOIR			Land Utilization Project No. 243-10	Land Utilization Project No. 243-11		Johnson's Stock Ponddo.	Bartel Stock Ponddodo					BakerdoTongue Riverdodo		Buffalo Billdodo.		Lake Bennettdodo.	Lake Booneville	Lake Fort Smith	Lake Baileydo	Lake Taneycomo	Nimrod.	Norfolkdo
DATA SHEET NUMBER			37-19	37-20		38-1	38-2		500	40-	4I -	42-1		43-1		44-1	44-2	44-3	44-4	44-5	44-6	44-7

3.94							~	•	43	532	393		29	05	;	21	22	, , ,	22	47	1 007		04 52,3								1 1				1 08			1 0	0.108 130	586 620	93 2,522	
1																						48, 10												o/1.	1	**				48, 6	60 1.	
207 201 314 256		310	222	220 125	104	97	234	299	570	247	1, 170	252	250	471	29	26 1, 100	1,009	142	153	158	46	4, 71	3, 43	201	193	75	79.2	76.3	94, 6	28, 1	27. 2	36, 4	305 276	260	500	-		62	96 96	91	289	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
2, 206 2, 141 325 264		1,260	522	517		842	4, 660	18, 397	17,509	9,896	24, 568 23, 816	580	574	2, 158	570	511	9,030	344	322 13,005	12,828	111	10, 404	7, 580	089	651	4,258	31,686	30, 509	26, 5	34.0	32, 9 123	1111.9	4/4, 961	4/4, 357	2,076	000		107, 300	308, 000	292,000	2,641	
15,5		1 01	4 1 1	9,75	22, 5	11. u	9, 2	, s , t	22	22	10.3	1 1	10	14	;	14	18,8	1 0	10, 75	4.7	;	42	34, 4	1	12.1	- 0		11	16	:		∞	19, 6	0	6 86	2			4.1	8,5	10, 25	
May 1938 Dec. 1953 Apr 1937 Dec. 1953	BUREN) Basins	July 1937	Oct. 1930			~ .		_				-	Sept. 1947				-		_	_	1897	Sept. 1939 Mar. 1905	Aug. 1939												Jan, 1931 Feb 1954	1001	TULSA) River Basins			Dec. 1949		nal at 1938 Crest.
10,66	TO VAN		2,30										4									2,208,6													3, 88		CITY TO Salt Fork	1,726	3,156	0		3/Original at 1938 Cres
10,90	ASIN (TULSA Lower Canac	4.06	2, 35	8.72		. 0	KO. 3	30, 7	40 1		21, (	2, 3	4 58	J. 7	19,8	8, 9,	1	2, 43	81, 25	. !	2, 41	2,210,0	. :	3, 38	. 1	56, 44	400.0	1	77.	1,21	3,07		16.27	!	4, 15		ASIN (GARDEN Cimarron, and	1,735	3, 206	0	7. 1.	3/0
Paris, Arkdodo	ARKANSAS RIVER E Grand, Verdigris and	Fayetteville, Ark	ор	Sanulpa Okla	do	do	Mc Alester, Okla	ф	Okmulgee Okla	ор	Shawnee, Okla	Taft, Okla	Arcadia Okta	dodo	Wilburton, Okla	Holdenville, Okla,	ор	Sapulpa, Okla	Muskogee, Okla	do	Iola, Kans	Baxter Springs, Kans	ф	Parsons. Kans.	ор	Claremore, Okla,	Spavinaw, Okla	do do	chelsea, Oklado	Claremore, Okla	Prvor, Okla	do	Wewoka, Okla	q <sub>0</sub>	Wetumka, Okla		ARKANSAS RIVER B. Middle Canadian, Lower	Supply, Okla	Jet, Okla	dodo	do do.	was 200 acre feet during period,
Arkansas River Tribdododododo		Trib, of Illinois River	Wilson Creek	Fuchee Creek	op	do	reaceable Creekdo	Bull Creek	Salt Crook	do	So. Br. Deer Creek	Br. of Pecan Creek	dodododo	Unnamed 1 r16, of Deep r k. C	Fourche Maline Creek	Beemore Creek	do	Pretty Water Creek	Big Greenleaf Creek.	op	op	Sprg. B. & Shoal Creek.	occess downsiers	Small Trib, of Neosha R	do	Dog Creek	Spavinaw Creek	ор	Unnamed I 110, of Fryor's Cr	Happy Creek	Trib, of Prvor Creek	do.	Coon Cr. or Spring Creek		Salt Creek			Wolf Creek	Salt Fk. of Arkansas River	ф.	op man do man de la composition de la compositio	pended load outflow
Cove Lakedodo		Lake Wedington	Wilson	Take Samilas	dare advanta	ф.	Brown Lake	Lake McAlester	I also Okmuliaso	dodo	Shawnee Lake	Taft Lake	dodo	niwassee Lake	Lake Carleton	Holdenville City Lake	do	Pretty Water Lake	Greenleaf Lake	ор	Kirk Lake	Lowell	ор	Neosha County State Lake (Lake McKinlev)	ф.	Lake Claremore	Lake Spavinaw	do	Nennamer Lakedo.	State Fish Hatchery Lake	Lake Scarbow.	ор	Wewoka Lake	0 p	Wetumka City Lake	VO VO		Fort Supply	Great Salt Plains	dodo	boomer banes.	1/Suspended-load in flow was 603 acre-feet; suspended load outflow
44 44 8 - 44 8 - 6		45-1	45-2	45.3	2		45-4a	45-5	3.24	2	45-7	45-8	0	n 1 0	45-10	45-11	4	45-12	45-13		45-15	45-16		45-17		45-18	45-19	00	02-04	45-21	45-22		45-23		45-24			46-1	46-2	16.3	2 - 0 -	1/Sus

Deposits too small to measure by range survey. 2/8ediment in flow volume was computed to be 2,350 acre-feet, much of this probably settled out over a large area in deposits too thin to be measured accurately by echo sounders.

4/Dam raised 11 feet March 1946, all values based on present elevation. 5/Dam broke April 1945; rebuilt March 1946; this period was not included. \*Estimated or assumed.

SUMMARY OF

	AGE UAL ENT LATION Q MI.	TONS		4,055		000	0 1 0	000	3,162	1, 410	701	612	: 1	468		1 1	;	1 1	1	1	: :	;	1 1	;	1 1	į	1		:	1 1
	AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI.	ACRE-FT		2,68	- N				24.2	) · ·	.495	. 426	. 16	. 303		!!!	1	1 1	1	1	: ;	;	: :	1	: :	1	;		1	î î
	SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			69, 47	1 9	001	1 0	0 1 0	019	0 1	*65	99	;	70.9		75.7	75.7	75.7	75.7	1	1 1	1	: :	;	; ;	1	ŧ		1 11 12 12 12 12 12 12 12 12 12 12 12 12	75.7
	CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			52.8	49.5	193 156	45.9				56.2	•	664	1 1		8 88	80	78	2.2	1 1	}	;	: :	i i	1 1		:		37	3.6
	STORAGE CAPACITY IN ACRE-FT			75	891	365	1,741	3,064	3,74	12.63	12.37 3.213	3,082	717	401,500 390,800		601, 112	585, 112	576,756	566, 163	1,836	$\frac{2}{1}$ , 064	3/1,004	4/2 260	1,822	5/2,236	6/816	680		701, 775	690, 345 688, 550
COST IIDOONIII	PERIOD BETWEEN SURVEYS IN YEARS			11.2		0.0	1 0	0 1 1	14.0	D.1	2.5	G	7.4	5.8		1 - 4	2,1	1.9	4.3	34	1 25	: :	34	34	- 6	, i	34	SIN	1 (	1.4
	DATE OF SURVEY		ULSA) er Basins	Aug. 1929 Oct. 1940		Aug. 1929	-			Sept. 1940 Apr. 1938	Sept. 1940	Ξ.	May 1947	July 1947 May 1953	CITY)	Jan. 1939 May 1940		Nov. 1942 Oct. 1944		1946	1912	1912	1946		1912	1940	1946	RIVER BA	Apr. 1942	July 1942 Dec. 1943
	E AREA E MILES	NET	CITY TO TULSA) Salt Fork River Bas	1.40	17,84	1.84	37, 55	12,95	. 31	. 21	34.3	1 0	100	1/6,081	O GARDEN n River Basi	6,950	;	; ;	1	: :	: :	1	: :	1	:	1 1	1	) ARKANSAS	17,080	1 1
	DRAINAGE AREA IN SQUARE MILES	TOTAL	N (GARDEN arron, and S	1.42	18.00	1.89	37,93	13.30	. 31	. 22	35.1	1 0	108	12, 483	(LAMAR Toper Canadia	7,350	1 8	: :	1	: :	; ;	: :	;	i i i	;	; ;	!	ANOLA) ANI	18,933	1 8
	NEAREST TOWN		ARKANSAS RIVER BASIN (GARDEN CITY TO TULSA) Middle Canadian, Lower Cimarron, and Salt Fork River Basins	Rago, Kansdo	Meade, Kans	Medicine Lodge, Kans	Augusta, Kans	Guthrie, Okla	Blackwell, Okla	do	Eldorado, Kans	do	Ferryton, Texdo	Canton, Okladodo	ARKANSAS RIVER BASIN (LAMAR TO GARDEN CITY) Upper Cimarron and Upper Canadian River Basin	Newkirk, New Mex	do	do	do	Maxwell, new Mex	do	do	do	do	do	do		RIO GRANDE BASIN (ABOVE ESPANOLA) AND ARKANSAS RIVER BASIN	Caddoa, Colo	op
	STREAM		Mic	Chikaskia Riverdo	Stump Arroya	Medicine Lodge Creek	Indianola Creek	Trib, of Cottonwood Creek		dodo.	Satchel Creek.		wolf Creekdodo	North Canadian Riverdodo		Canadian River	qo	000	do	(Oilstream)do.	do	do.		op	do	do	ор	RIO GRA)		
	RESERVOIR			: :						Harris Stock Pond.			Lake Fryerdodo.			Conchas		000		Heservoir No. Zdo.		Reservoir No. 11				Reservoir No. 14			John Martin	
	DATA SHEET NUMBER			46-4	46 - 5	46-6	46-7	46-8	46-9	46-10	46-11		40-12	46-13		47-1				7-14	47-3	47-4	1	0-1-1	47-6	47-7			48-1	

1, 515		1, 165		2, 234	: :	1 1 1	;	;	: :	5,275	3, 505	3, 201	1	576	780	890
		1.08		2.52	1. 26	4,59	2.41	1.02	. 689	3,82	2,54	2.23	. 64	508	. 535	. 784
75.7 75.7 75.7 89.07 75.25 75.25 75.25		09.		40.7	: :	: : :	1	1 ;	; ;	63,4	63,36	62.9	1	- 69	6.99	52,1
36 36 36 10.2 10.0 109.7 99.1 696 591 31.3 41		214 201 968 915 17.4 12.3 449		433 396 191	478	397 320	11.2	20.5	46.9 34.4	572 526	187 169	142	28	74.04	67.52	-
683, 257 675, 087 662, 870 758 16, 918 15, 287 36, 203 30, 738 4, 605 4, 605 25, 620 25, 020		11, 487 10, 755 11, 414 1, 336 181 128 157		1, 797 1, 644 507	865 837	349 282 43 4	22.8	13.1	15, 755 11, 568	6, 291 5, 783	4,415 3,981	3,343	85	156,668	142,862	5,859,000 5,718,000
2 2 3 3 3 3 4 4 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5		13.1 36 10.3 29		15,5					18.2						5,1	
Sept. 1944 May 1948 Oct. 1951 - 1900 Nov. 1939 Fall 1919 Dec. 1939 Nar. 1911 Mar. 1911 Feb. 1912 - 1912	ECORE)	Feb. 1923 Mar. 1936 1906 Mar. 1936 Mar. 1931 July 1941 Sept. 1925 Sept. 1954	SON	u n	Nov.	Feb. Mar.	June	June	Oct. Jan.	Oct. Aug.	Dec.	Nov.	May	Dec.	June	July Oct.
74.4 15.2.4 47.4 47.4 6.08	N TO GRAND ECORE)	51.6	ABOVE DENISON)	3,91	1.70	. 81	2.03	. 63	334	10.4	23.1	1 .	1.44	2,116	1 1	28,971
1154.2 1154.2 12.01 12.01 16.8 6.08	VER BASIN (DENISON Little and Sulphur Rive	53.6 1.46 10.4 	RED RIVER BASIN (	4,15	1,81	88	2.04	. 64	336	11.0	23.6	1	*1.5	2,515		38,291
do do do do do Caddoa, Colo Caddoa, Colo Ordway, Colo do Walsenburg, Colo do do do do do	RED RIVER BASIN (DENISON Little and Sulphur River	Paris, Texasdododo	RED RIV	Ardmore, Okla do Byars, Okla	Madill, Okla	Lindsay, Okladodo.	Cheyenne, Oklado	do	Vernon, Texdo	Duncan, Okla	Canute, Okla	do	Bellevue, Texdo	Altus, Okla	do.	Denison, Tex
do d		Pine Creek.  do.  Trib. of Pine Creek  Mine do.  do.  Trib. of Lewis Creek  do.		Caddo Creekdodododo	Big Glasses Creek	Unnamed Trib, of Washita R.	Trib. of Broken Leg Creek	do	Beaver Creek	Fitzpatrick Creek	Turkey Creek	op	Clay Creek	North Fork Red River	do	Red Riverdo
do   do   do   do   do   do   do   do		Lake Crook.  Lake Gibbons.  do.  Nashville.  Jenkins Pond.		Ardmore Club Lake	Carter Lake	J. J. Harrison Lakedodo.	C. W. Lester Farm Pond No. 2	C.W.Lester Farm Pond No. 2	Santa Rosa Lake	Lake Duncan	Lake Clinton	dodo.	Bellevue	Altus	do	I ake Texoma (Denison Dam)
4 4 ÷ 4 4 0 0 8 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		4 4 4 4 1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		50-1	50-3	50-4	50-5	9-09	50-7	8-05	9-09		50-10	50-11a		50-12

1/ Excludes 4,642 square miles of watershed not contributing to runoff of which 1,735 square miles are above Ft. Supply Dam and 25 square miles of Cauton Reservoir Surface.
2/ During the period 1912-1946 a total of 2,435 scre-feet capacity was added by reservoir enlargement. 3/ During the period 1912-1946 a total of 128 erre-feet capacity was added by reservoir enlargement. 4/ During the period 1912-1946 a total of 672 acre-feet capacity was added by reservoir enlargement. 5/ During the period 1912-1946 a total of 490 acre-feet capacity was added by reservoir enlargement.

6/During the period 1912-1946 a total of 264 acre-feet capacity was added by reservoir.
7/Off channel reservoir.
8/Spillway crest was lowered 3 feet in 1932; capacities are based on present elevation.
9/Initial survey for new dam over deposits in old reservoir.
\*Estimated or assumed.

SUMMARY OF RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI. FOR PERIOD	TONS		1	3, 211	1 1	:	1,304	8,308	1	1 1	1 1	1,782	691		1,058	2,831	: :	;	1 1	3,835	1 1	;	1 1	1		1	1 1	1	1	5,150	1 0	3,002	759	: :
AVE ANN SEDII ACCUMI PER	ACRE-FT		1	2.49	2,57	2,39	1,13	5.66	1 0	3. 53	3, 91	1.67		. !	. 796	2,60	4 90	4 1	2,21	2,93	. 785	1	1.44		1.03	5, 51	46		. 72	3,94	1 .	1.62	. 64	2.21
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			1	29.5	: :	;	53	67,4	1	: :	1	49	38.7	. ;	61	*50	; ;	1	1 1	60.1	: :	;	: :	;	! !	1	1 1	; ;	;		1	85.08	54.49	1 1
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			241	351	312	159	142	845	1,281	1,117	76	144	250	59	33	554	254	127	110	150	278	113	109	257	194	753	87	269	255	33,7	631	593 98	8.7	135.71
STORAGE CAPACITY IN ACRE-FT			2, 219	319	205	92	167,072	8,012 6,657	756	659 37,520	27,100	14,276	531	370	328	3/1, 741	376	388	33	275	292,000	211,000	205,175	270	204	271	222	856	812	397	663	623	554	338
PERIOD BETWEEN SURVEYS IN YEARS			;	28.25	54	69	10.5	28	1 -	64	9.7	24	13 25		8.5	1	0 0	) 1	7.8	23.6	10.8	. !	3	2 1	40	13	1 0	02 -	20	16.5	. !	26	18.8	7.8
DATE OF SURVEY		IS.		Dec. 1949	Sept. 1949		Sept. 1938	1921 Sept, 1949	Π,	Sept. 1949 Mar. 1937	Nov. 1946	Apr. 1935		Apr. 1930	Nov. 1938	Dec. 1950		June 1942		Apr. 1938			Mar, 1939	-	Apr. 1939	Apr. 1939	-	Apr. 1939		Oct. 1922 Apr. 1939	٠.	Sept. 1954		July 1942 May 1950
DRAINAGE AREA IN SQUARE MILES	NET	RIVER BASINS	8, 71	. 82	5.4	1 1	La LO 1	8.56	. 43	274.4	1 6	3	2.02	6.18		1	1.42	. 29	1 4	1. 1.	1,033	4/809	1 1	1.01		20.	2.50	3.05	i	3,98	. 95		1	. 29
DRAINAG IN SQUAF	TOTAL	TRINITY	9, 20	. 91	1 20	- 1 3	F17 f7	1/9.48	. 59	280	- 00		2, 12	6.24	2	H + 1	1.48	. 30		L. 03	1,051	1,875	1	1.05	36	000 .	2,55	3, 18	}	4.09	1,05	 R 49	. !	. 29
NEAREST TOWN		SABINE, NECHES, AND	Terrell, Tex	Corsicana, Tex	do	do.	do	Corsicana, Texdodo.	do	Dallas, Tex	do	do	Grand Saline, Tex	Weatherford, Tex	The do	do	Kemp, Tex	Bedford, Tex	do T	willis Foint, 1exdo	Bridgeport, Tex	Fort Worth, Tex	do	Fort Worth, Tex	dodo	Amens, rexdo	Palestine, Tex	Huntsville, Tex	do	Crandall, Tex	Zwolle, La	do	dodo	Bedford, Texdodo
STREAM			Kings Creek,	. Unnamed Trib. of Elm Creek	do	do		Elm Creekdo		Mountain Creek	do	white Rock Creek	Simm	Town Creek	Woodpooling Capab	waxauacute Cieekdodo	Cedar Creek	Unnamed Trib	do	Magnee Creekdo	West Fork of Trinity River	p	p	Unnamed Trib		. Irib. of Cedar Creek	. Wolf Creek	Fast Sandy Creek			Trib, of Herrican Creek	dodo	do	. Trib. of Trinity River
RESERVOIR			Terrell City Lake	Lower Beaton Lake	Burke Neck Lake	do	Lane Dallas	Lake Halbertdodo.	Magnolia Lake (Red Horse)	Mountain Creek	op	white Rock	Grand Saline	T & P.	dodo	Lake Clair K	Kemp City	Variety Club Boys' Ranch Lake Unnamed Trib	do	Willis Fointdo.	Bridgeport West Fork of Trinity River	Eagle Mountain.	do	Lake Erie	dodo	Madank Lity Lakedodo	Wolf Creek	Flkins Lake	do	Murphy I ake	Loring Lake	do	Neterns City Lake	Variety Club Lake Trib. of Trinity River.
DATA SHEET NUMBER			51-1	51-2	-13		#- TO	51-5	51-6	51-7	c t	9-TC	51-9	51-10	-	11-10	51-12	51-13		51-14	51-15	51-16a		51-17		81-1c	51-19	51-20		51-21	51-22	0	31-63	51-24

# LOWER BRAZOS, LOWER COLORADO, GUADALUPE, SAN ANTONIO, AND NUECES RIVER BASINS

1 6	63	36	1	619	1	1	;	1	;	1	1	:	
1	0,083	. 044	1	.465	. 391	ė į	. 21	1	. 07	1	.021	1 1	12
;	34,9	35.6	0 [	61,1	75.0	1	;	;	1 .	:	;	1	1
3,24	2,61	2,34	467	456	452	50	49	29	64	46	45	80	77
54, 426	43,801	39, 387	274,065	267,630	265,075	970,010	954,859	4.7	4,5	9,3	9, 1	12	11.6
f t	7.6	0.9	3 6	23, 9	11,3	1	3.7	1	32	-	38	1	25
			1913		1948		1941	1909	1941	1903	1941	1916	1941
July	Mar.	Mar.	Mar.	Jan.	May	June	Feb.	1	Feb.	1	Feb.	1	Foh
16, 791	1	1	578	1	1	19,313	-	. 07	1	. 19	1	. 14	;
16,800	;	1	587	!		5/19,350	;	. 07	:	. 20	1	. 15	1
Mathis, Tex	do	do	San Antonio, Tex	do	do	Burnet, Tex 5/19,350	op	Llano, Tex	do	do	do	do	20
Lake Corpus Christi Nueces River	do do	op	Medina Lake Medina River	dodo	op	Buchanan Colorado River	dodb	Moss Ranch Stock Pond, S. Bull Creek		do W. Bull Creek		Helms Tank Trib, of Sandy Creek	CCC
52-1			52-2			52-3		52-4		52-5		52-6	

BASINS
RIVER
COLORADO
AND
MIDDLE,
WASHINGTON)
TO
BEND
(SOUTH
BASIN
RIVER
BRAZOS

400	3 1	1,162	:	1	1 1	375	ì	:	-	: :	1	1	;	į.	1	!	!	1	\$ 1	}	1	;	1	;	!	1	1 2	1	đ 1		: :		: ;	: 1	1	1 1			
18 0	1	1.18	1	. 334	1	. 40	1	2, 86		1, 45	5,68	1	1.0	1	3, 0	1	3.0	1	. 46	1	. 20	1	69.	£ :	. 71	1 !	1.71	1	. 9.5		41.		1,31	200			¥9.	000	20.
17	: :	45.2	1	1	1	65	;	1	l E	] ]	1 1	1	}	;	;	;	ì	1	:	ì	I t	;	1	1	;	;	1	ì	1	:	;	!	1	į	i	;	;	;	}
199	655	637	95, 4	88.7	83	7.3	653	564	227	182	230	220	168	1,210	1,100	407	344	41	27	160	154	219	210	202	183	134	94	51.8	47.7	ກໍາ	4, C	170	131	380	3.4	51	4.1	, d	). °C
2,153	766	745	1,313	1, 221	962	855	6/104.5	90, 2	6/318.2	255.4	126.5	7/110	84	7/36.3	33.0	44.8	37,8	530	354	759	732	723	692	83	75	75. 1	52.6	729, 985	672, 420	153	08	153	118	582	273	610	260	1,637	1, 275
	; ;	1.7	;	20.3	1	23	1	36	1 6	32	12	†	51	ł	37	1	24	1	30	;	29	l J	14	-	27,5	1	24	;	7,75	1	31	;	30, 5	1	33, 6	:	17,75	1	20, 75
1923			-	-		_				7-1949 1-1922	-	_	-	_	_	-		-	-	-		-				-	_						e 1940	_	_	_	704	_	r. 1941
										May-																													
10.6	-:	1	13.	ł	11.	1	•	1	-i	1	.		ì	-,	;	•	;	12.	1	4,	ŀ	8	;		:	٠	;	12,955	1	16.	;	•	1	٠	;	11.	;	224.	1
10.8	1.17	;	13, 76	1	11,65	;	. 16	;	1.40	55	:	. 5	!	. 03	1	.11	;	13.0	1	4,74	; 	3, 30	;	. 41	:	. 56	;	/14,098	;	16.5	:	6.	1	. 73	;	12.0	:	225	;
Coleman, Tex	Santa Anna. Tex	dp	Comanche, Tex	do	Goldthwaite, Tex	do	Hubbard, Tex	do	op	Rogers Tex	do	Hubbard, Tex	do	do	do	do	op	Lawn, Tex	dp	Lometa, Tex	do	Meridian, Tex	do	San Saba, Tex	do	Hubbard, Tex	do	Graford, Tex	do	Coleman, Tex	do	Santa Anna, Tex	do	Coleman, Tex	op	Hamilton, Tex	do	Eastland, Tex	do
. Trib. of Jim Ned Creek	Mud Creek	do	. Mercer Creek	do	. Brown Creek	do	Trib. of E. Cottonwood Creek.	ф	E. Cottonwood Creek	Trib of Little River		. Trib. of E. Cottonwood Cr			ф	. East Cottonwood Creek	do	Redbank Creek	do	Salt & Emory Creek	op			Trib. of Horse Creek			do	Brazos River	ф	. Bachelor Creek		Mukewater Creek	op	. Home Creek	do	Two Mile Creek	do	Leon River	do
Lake Scarborough	Santa Anna Lake	do	Lake Eanes Mercer Creek	do	Lake Merritt	do	Hubbard City Lake No. 3	do	Hubbard City Lake No. 4	Doctors I sho	do do	Hubbard City Lake No. 1	do	Hubbard City Lake No. 2	do	Hubbard City Lake No. 5	cp	Lake Lawn.	cp	Tometa Salt & Emory Creek.	C	Meridian Take	Op.	Miller Lake	Op.	Odell Lake	op op	Possum Kingdom Lake	do	Rock Crusher	do.	Old Santa Anna City Lake Mukewater Creek	op	Old Coleman City Lake	do	Lake	op	Leon River	do
53-1	53.2		53-3		53-4		53-5		53-6	7.2.7		53-8		53-9		53-10		53-11		53.12		53-13		53-14		53-15		53-16	2	53-17		53-18		53-19		53-20		53.21	3

<sup>1/</sup> Excludes area above two lakes in watershed which contributes occasional flow to Lake.

2/ Lake Clark was built in 1940 downstream from "Ennis New Lake" or "Club Lake" which was built in 1895.

1895.

4/ Based upon combined capacities of all lakes in system.

4/ Excludes area above Bridgeport Res.

5/ Drannage area is 31,250 sq. mi. of which 11,900 sq. mi. are non-contributing.

<sup>6/</sup> Dam was raised in 1925 and 1949. Capacities based on 1949 level.
7/ Dam was raised in 1925. Capacity based on 1925 level.
8/ Includes 1,111 sq. mi. of partially contributing drainage above lakes in watershed; excludes 8,950 sq. mi. of non-contributing drainage at head of watershed.
\* Estimated or assumed.

SUMMARY OF RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

1	1	[																										50 27	44, 10							
AGE JAL ENT CATION Q MI.	TONS			: ;	-	1	1	1 1	1	-	1	1 1	1	1	1	1	265	566	645	1 9	1 621	621	1	687		;	274	1 17	44	1	!	1 1	1	199	298	
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI. FOR PERIOD	ACRE-FT		1	1.19		.058	1 0	000.	, 16	1	. 24	10	4 1	. 63	1 0	.0.	. 135	. 473	. 559	1	1 20	487		. 64		;	0.21	100	. 03	: ;	. 41	10	70.	. 29	. 38	
SPECIFIC WEIGHT IN LES (DRY) PER CU FT			1	1 1	;	;	;	1 1	;	;	;	1 1	;	;	-	:	06*	*58	*55	1 (	* * * * * * * * * * * * * * * * * * *	* 200. *		49, 2		;	09*	1 2 2	67.5	:	l t	: :	: :	31, 55	35, 99	
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			144	121	19	17	7.7	37.	35	5.6	4. o	0,0	088	68	20	61	98	93	88	23.6	20.2	13.2	157	141		105	66	3,49	3, 83	126	121	185	169	158	: ;	
STORAGE CAPACITY IN ACRE-FT		(Continued)	10 741	9,032	2 80	59	20	13			3,6	1, 12	102	93	183	178 300	147,865	143,880	136,600	39, 378	33,717	22,026	6,583	5,917		10, 325	9,786	11,485	1/12,628	13,810	13, 287	7 618	2/1,947	1,829	76, 966 74, 312	
PERIOD BETWEEN SURVEYS IN YEARS		VER BASINS		19.5	. !	41	1 0	- 1	14	;	4.8	25	:	14.6	1 0	15.9	2, 1	5,5	8, 5	1 ,	. 4 . c	11.8	1	25, 25		1	27	100	14.5	: 1	11.8	13 3	1	35	14.8	
DATE OF SURVEY		LORADO RI	1099			_	June 1937		Mar. 1941	-	Mar, 1941				Apr. 1925	Feb. 1941			_		Feb. 1935 Feb. 1936			May 1954	BASIN	Aug. 1921		Oct. 1930		_		Sept. 1928			Oct. 19382/ Aug. 1953	S)
Drainage area in square miles	NET	E, AND CO	73 4	# I	1,71	1	2, 58	1 67	: :	. 80	1 7	CT .	1,01	;	9,00	1 539	A, 000		1	1,662	: :		41,4	1	RADO RIVEF	97, 5	1	3, 119	1	108,8	1 6	47. g	11, 32	1 000	268	EAGLE PAS
DRAINAC IN SQUAH	TOTAL	TON) MIDDL	7.4.4	F 1	1,73	1	2, 60	1 00	. !	. 80	1	CT . 1	1,04	;	9.04	1 544	1,044	;	!	1,666	: :	1	42	!	PER COLO	98, 5	1	3,294	1	110	1;	44	11,54		478	N (BELOW
NEAREST TOWN		(SOUTH BEND TO WASHINGTON) MIDDLE, AND COLORADO RIVER BASINS (Continued)	Mineral Welle Tev	willer at wells, reves	Coleman, Tex	do	do	Brady Tex	do.	Brownwood, Tex	do	Dawn, lex	do	фо	Pioneer, Tex	Brownwood Tox	do do	do	фф	Waco, Tex	do	Op	Graham, Tex	Bossess dossessessessessessessessessessessessesse	UPPER BRAZOS AND UPPER COLORADO RIVER BASIN	Abilene, Tex	ф ф	San Angelo, Tex	do-se-	Sweetwater, Tex	ф	Abliene, Lex	Throckmorton, Tex	do	Abllene, Tex dodo	RIO GRANDE BASIN (BELOW EAGLE PASS)
STREAM		BRAZOS RIVER BASIN (SO	200	NOCK CI EEK				Trib. of Brady Creek		Unnamed Trib, of Pecan Bayou.	Transport Truit of I'm Mod C					Decem Berron (Colo B)					do.		Flint, Creek	QO		Elm Creek	do	South Concho River	000000000000000000000000000000000000000	Bitter Creek	do	Cedar Creek	South Elm River	do.	Lin Fork, Brazos River	
RESERVOIR			Tolo Minous Wolls	do do	Buffalo Tank (Knox Tank)	ф	R. G. Hollingsworth Stock Pond	I.S. Wall Stock Pond.	ор	White Tank Unnamed Trib, of Pecan Bayou.	do	Ammeriee Stock Fond (north)	Stith Lake	do	Philpeco Lake	Take Brownwood	Lake Di Owlywood	do	do	Lake Waco,	do.	00	Lake Eddleman	CO		Lake Abilene	op	Lake Nasworthy		Lake Sweetwater	do	do do	Lake Throckmorton	I do Fort Dhorton Hill	Lake Fort Frantom Mill do	
DATA SHEET NUMBER			50.00		53-23		53-24	53-25		53-26	60		53-28		53-29	53-30				53-31			53-32			54-1		54-2a		54-3	4		54-5	3 7		

- 55

## RIO GRANDE BASIN (FORT QUITMAN TO EAGLE PASS) AND LOWER PECOS RIVER BASIN

1.02	1.02 899 446 475 621 361 127 182	0.083 1.03 1,649 1.22 199.2 1.22 241.8295 492.5026 42.5	0.432456 695 .089 136 .179 273 .1.751.751.45 6.095 .179 273 .1.75
11111			**************************************
214 162 43.57 34.12 62 45	100 100 96 92 88 86 85	28. 4	127 122 98, 25 98, 25 95, 45 193, 79 16, 43 255, 63 255, 63 247, 54 247, 54 246, 18 246, 18 246, 18 246, 18
500 378 224,4 175,7 145,3	2, 634, 800 2, 584, 865 2, 498, 850 2, 389, 380 2, 270, 300 2, 219, 000 2, 197, 600	1, 180 1, 150 1, 150 146, 071 130, 171 132, 171 7, 888 6, 633 5, 000 62, 000 45, 25 40, 000 38, 665	184,500 176,456 1,267,447 1,233,335 1,231,335 1,209,553 1,400,150 1,460,150 1,425,813 1,384,013 1,384,013 1,381,580 1,381,580
17 1 17 1 17	1, 9 3, 7 5, 0 6, 5	0 66 6 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	12.9 12.9 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
July 1937 July 1954 July 1937 July 1954 July 1937 July 1854	Jan, 1915 Dec., 1916 Aug., 1920 Aug., 1925 Apr., 1935 Oct., 1940 Apr., 1947	39.9iune 1931 Sept. 1940 Sept. 1940 Oct. 1943 Apr. 1944 Apr. 1944 Apr. 1944 Apr. 1944 Apr. 1944 Apr. 1940 May 1915 Dec. 1932 Jan. 1940 Jan. 1940 May 1915 Jan. 1940	1,450 1,444 Apr. 1928 184,500 122 2,900 11,900 Nov. 1928 1,287,447 98. 2,900 11,900 Nov. 1928 1,287,447 98. 2,900 11,900 Nov. 1928 1,287,447 98. 2,900 11,900 Nov. 1928 1,287,437 95. 2,900 11,900 Nov. 1938 1,231,305 95. 2,69 Mar. 1936 11,209,953 93. 2,60
4/2.81 2.31 O FORT Q	5,923 25,866	3 3,749 3 3,749 10 1,080 1,080 1,080 10,000	450 1,444
2.34 5.15 2.34	OS	4, 393	-
Fabens, Tex. 2, 34 2, 19 July 104 40. 2.19 July 40. 2.19 J	Hot Springs, New Mex 2 do	Capitan, New Mex. 40.0 39,9  Guadalupe, New Mex. 4,393 3,749  do do	Phoenix, Ariz  Globe, Ariz  Globe, Ariz  do  do  do  Globe, Ariz  Globe, Ariz  do  do  do  do  do  do  do  do  do  d
San Felipe Arroyodo.	Rio Grande	Bonito Cr., Kraut Gulch  Pecos River do	Aqua Fria River
Cottonwood Detention	Elephant Butte	Bonito do Alamogordo (Carlsbad Project) do Lake Avalon Lake Avalon do Cake Avolon do do do do do	Lake Pleasant,   Aqua Fria River   Coolidge Dam    Aqua Fria River   Coolidge Dam    Gila River   Gila R
56-2 56-3 56-3	57-1	58 - 2 - 1 58 - 2 - 1 58 - 3 - 2 - 1	60-1 60-2 60-3 60-4 1/Spi

SUMMARY OF

RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

	LAGE UAL LENT LATION SQ MI. ERIOD	TONS			877							::::	:::	1 1	; ;	; ;	[ ]	;	f
	AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI. FOR PERIOD	ACRE-FT			6.620							0,024	. 134	.029	. 508	.620	.310	. 106	. 594
	SPECIFIC WEIGHT IN LBS (DRY) PER CU FT				65							1111	:::	1 1	1 1	; ;	1 1	ē z	1 1
	CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.				186 178							121 120 26.5 24.9	45.6 42.2 2.35	. 88	43.0 360	342	314	30,3	45, 8
	STORAGE CAPACITY IN ACRE-FT				31, 250, 000 29, 827, 000							607 598 318 299	23, 260 21, 509 2, 115	799	430	8,550	2, 200 81, 200	74,010	234, 462
	PERIOD BETWEEN SURVEYS IN YEARS				13.7							75	25.8	50	47	31			24
	DATE OF SURVEY		SINS	OVER DAM)	Feb. 1935 Sept. $1948\frac{2}{}$	SING)						Sept. Oct.	Feb. 1915 Nov. 1940 1890	Nov.	Nov. 1940 1909	Nov. 1940 Dec. 1926			1932
	E MILES	NET	RIVER BA	ING TO HOO	1/167,600	ALLS CROS			SIN			4.9	900	9,92	23.4	6,9	2, 436		1,089
i	DRAINAGE AREA IN SQUARE MILES	TOTAL	D SAN JUAN	ALLS CROSS	167, 800	N (ABOVE H Fremont Riv		GREEN RIVER BASIN	GREAT SALT LAKE BASIN		FR BASIN	5.0	900	10.0	25.0	7.0	2,440	. 1	021 *0
	NEAREST TOWN		LITTLE COLORADO AND SAN JUAN RIVER BASINS	COLORADO RIVER BASIN (HALLS CROSSING TO HOOVER DAM)	Boulder City, Nev	COLORADO RIVER BASIN (ABOVE HALLS CROSSING) Gunnison, Dolores and Fremont River Basins		GREEN RI	GREAT SAL		SEVIER RIVER BASIN		do. Sigurd, Utah.		Enterprise, Utah	Parowan, Utah			Sevier, Utandododo
	STREAM			[00]	Colorado Riverdodo.							Boody Hole Creek	Sevier River	Skutumpah Creek	Pine Creek	Pole Creek.	do do Sevier River.	do	op
	RESERVOIR				Lake Mead Colorado River							Booby Hole do lindian Creek No. 1			Enterprise	Yankee Meadows	do do Sevier River	Savier Bridge	
	DATA SHEET NUMBER		61-		62-1		63-	64~		65-		66-1	66-4	66-5	9-99	2-99	8-99	66.9	2

- Basins
River
Truckee
Carson and
Humboldt,

68-1	Willow Creek	Willow Creek	Humboldt, Carson and I	ruckee kiver	Basins	193			15, 300	137	;	1	1
	do.		do	:	:	Sept. 1939	15		15, 050	134	:	0, 15	;
			GREAT BASIN Owens, Walker, and Mono Lake Drainages	BASIN ono Lake Drai	inages								
69-1	Weberdo	Walker Riverdodo.	Shurz, Nevdodo	2,800	2,440	Sept. 1935 Sept. 1939	9 4		13, 200 12, 980	4.6	1 3	0.03	1 1
		SALTON SEA AN	SEA AND SOUTHERN CALIFORNIA COASTAL AND GREAT BASIN DRAINAGE	A COASTAL	AND GRE	T BASIN	DRAIN	GE					
70-1	Fullerton Flood-control Basin	Fullerton Creek	Brea, Calif	3,05	2,95	Oct. 1941 Nov 1944	11	-	753, 5	247	1 1	1 15	
70-2	Lake Hodges	San Diequito River	Escondido, Calif	303	301					121	1 tf	4 6	517
4	do d	op p	qo		1 1 6		13.0		33,482	111	3 1	. 332	470
8-02	Kailroad Canyon	San Jacinto Kiverdodo	Elsinore, Calldododo	118	100	June 19			12, 218	16.8	09*	.03	39
70-4	Lake Sherwood	Triunfo Creek	Hollywood, Calif	16	15,7	1905 Mar 1936	5 31		2,870	179	*5.0	1.8	174
	op	do	ф	1	: :				2,772	173	2 1	. 64	269
20-2	Stone Canyon	Stone Canyon Creek	Sawtelle, Calif,	1.36	1.16	May 19; June 19;	18.3		7,998	5,881		2.34	3,058
9-02	Bonita Canyon	Bonita Creek.	Orange, Calif	4,00	4.00	Jan. 1938			326	81.5	0 8 0		
7-07	Bouquet Canvon	Bououet Creek	San Fernando, Calif	12.6	11.6	June 1939 Mar, 1934	5 2		305	76.3	0.0	2.03	5, 45 (
	do	do.	do		1	_	69		36, 436	2,892	*40	1.10	928
70-8	Chatsworth	Trib, of Los Angeles River	do	5. 40	4, 45	Apr. 1918 June 1939	8		10, 125 10, 077	2,275	*40	.51	444
6-04	Lake Hemet	Trib. of San Jacinto River	Hemet, Calif	0.99	65,3				14,000	212	1 1	, į	1 0
	- 1	dodo	dodb	1		June 1940			11,702	177	*75	. 73	1,190
01-07	Laguna do	Irio, of Newport Bay	Orange, Camdodo	: 1			19 2		266	355	*40	5, 56	4,840
70-11	Encino	Encino Creek	Los Angeles, Calif	1.42	1.30	May 1921	11		3,229	2,274	*40	1 80	710
70-12	Fairmont	Antelope Valley River	Lancaster, Calif	2.64	2,37				7,487	2,836	1 1		2
	ф	do	qo	1 0	1 0	June 1939	9 26		7,393	2,800	:	1.53	: :
70-13a	Little Rockdo.	Little Rock Creekdodo	Falmdale, Calif do do	0.00	01,04		-	. 0	4,139	60.9	*85	. 10	185
	do	do	do	;	1	June 1938		0 0	3,648	53,6	; ;	2, 41	1 330
	000	do	do	: :	: :		3, 6		3, 352	49.3	†	. 25	460
	qo	do	do	;	1	_			3, 297	48.4	;	. 49	907
	:	T in Oak Crook	Pacadona Calif	2 30	2 30	Aug. 1953 Nov. 1922	,	03	3,313 250	48.7	<b>!</b>	<del>4</del> 1;	4-1
¥1-0.	Live Oak	do de	dodo	;	:		13.	ro.	242	105	*82	. 26	481
	do	ор	doob	1 0	100			4	229	99° 6	: :	2,36	4,570
70-15	Morena	Cottonwood Creekdo.	san Diego, Caur	116,0	**************************************				60,699	542	*60	2, 16	2,823
!	do	do.	op	1000	9 9 50	July 1948			58, 933 23, 000	526	: :	1.28	1,673
70-16	Prado	Santa Ana Riverdo	Corona, Califdo		2, 230				22, 481	98.3	*75	.231	377
70-17	Mockingbird Canyon	Mockingbird Canyon River	Arlington, Calif	11.6	11.5		.4 10 26		1,000 961	88 83 83	09*	.130	170
				4/Not comm	2004	C	duri	neriod.					

1/Not adjusted for numerous small reservoirs.
2/Period of survey was from March 1948-March 1948.
3/Original Survey made in 1908.

4/ Not computed because of scour during period,  $\overline{5}/$  Equalizing reservoir on the Gage Canal system obtaining water from the Santa Ana River, \* Estimated or assumed.

RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

SUMMARY OF

AVERAGE ANNUAL SEDIMENT CCUMULATION PER SQ MI. FOR PERIOD	ACRE-FT TONS
<	ACRE-FI
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT	
CAPACITY SPECIFIC WATER- WEIGHT SHED IN LBS RATIO IN (DRY) PER ACRE-FT CU FT PER SQ MI.	
STORAGE CAPACITY IN ACRE-FT	
PERIOD BETWEEN SURVEYS IN YEARS	
DATE OF SURVEY	
DRAINAGE AREA IN SQUARE MILES	NET
DRAINA( IN SQUAE	TOTAL
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NEAREST TOWN	
STREAM	
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	ned)	35,800	35, 200	34,100	33,500	4, 105	12,881	12, 298	10,786	2/11,029	2/11, 102	10,915	10,501	2/10,030	2/10, 39/	47, 191	46, 335	45,862	45,759	44,032	44,388	44,342	40,020	43, 920	39, 316	38,692	37, 175	36,655	35, 171	1,490	1,3/3	2/1,189	1,145	1,071	1,042	140	50	2/76	2/101	2/112	2/119	2/138	17,398	1 194	1,039	1,053	696	953	300
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	DRAINA	1940	1941	1943	1945	1949	1935	1936	1938	1939	1940	1941	1943	1940	1946	1938	1940	1941	1942	1943	1944	1945	1940	1951	1934	1936	1938	1938	1949	1919	1933	1939	1941	1943	1944	1929	1938	1939	1942	1944	1952	1953	1915	1930	1931	1935	1938	1943	1024
	BASIN			Oct.		Oct.		Jan.	Apr.	Nov.	Nov.	Nov.	Oct.							Sept.				Mav.								Nov.						Nov.							Sept.	Jan,	Mar.	Sept.	000
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	SOUTHERN CALIFORNIA COASTAL AND GREAT	San Fernando, Calif	do	ор	T.111 - 14 - 17 - 17 - 17 - 17 - 17 - 17 -	Fullerton, Calif	Azuza, Calif	ф.	ф	do do.	do	ор	do	OD	do.	0	do	ор	do	ор	фор	do	and a second sec	000	Op	ор	do	do	do	San Dimas, Calif	do	Op	ор	do	op	OD	00	ор.	ор	do	op	ор	OD	Glendora Calif	op	do	ф	dO	TO THE PERSON OF
	SALTON SEA AND	Tujunga Creek	фо	ф.	do	brea Creek	San Gabriel River	do	ф	фф	ф Останования	do	do	ор	40°		do	qo	ор	••••• формация	ф фо	do	a Obsession of the contract of the contr	000	OP	ф.	фо	••••••	dodo	San Dimas Wash	40°	Op	do	do	do	**************************************		do	do	фф.	do	(O)	Fuddingstone Creek	Big Dalton Creek	op	do do	do	OD	UQ
		Hansen F. C. Basin	ф	dod	do.	Brea F. C. Basin	San Gabriel Dam No. 2	QO.	op.	ф. портината	do	•••••• р ••••••	do	do	O O O O O O O O O O O O O O O O O O O	San Gabriel Dam No. 1	do.	ор	do	do	фф	do		000	Morris Dam	ф.	do		do.	San Umas Basin,	Op.	OD	ор	••••• фотого фот	do.	r uddingstone Diversion		do.	ор	do	ф.	do	Fuddingstone Dam	Big Dalton	op	ор	do	000 and 000 an	
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Santa Anita River	Arroyo Seco River.  do. do. do. do. Eaton Wash.	do do do do do do do do Santiago Creek Sawpit River	do. Little Santa Anita Creek. do. do. Thompson Creek. do. Thompson Creek. do. sed downstream by sluicing openg openations.	
Big Santa Anita  do.  do.  do.  do.  do.  Big Tujunga Dam  Dig Tujunga Dam  Jugon			in	
70-27a	70-29	70-31a 70-32 70-33	70-34 70-35a	

SUMMARY OF RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

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AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI.	ACRE-FT TONS
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT	ACI
TY SPH N IN IN COR.	
CAPACITY SPECIFIC WATER- WEIGHT SHED IN LBS RATIO IN (DRY) PER ACRE-FT CU FT	
STORAGE CAPACITY IN ACRE-FT	
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1/ Debri	1/ Debris excavated at various times.			2/ Drainage area	0.84 square m	niles to 1945; 1.05	o 1945; 1.06 square mile beginning 1945.	inning 1920.			

SUMMARY OF

## RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

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AVERAGE ANNUAL SEDIMENT CUMULATIO PER SQ MI.	TONS		; ;	;	1 ;	;	1 1	;	; ;	1	; ;	-	; ;	;	; ;	;	; ;	1	1 1	1	: :	1	1 1	1	; ;	!	; ;	1	1 1	+	1 1	1	1	: :	: ;	;	; ;	1
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STREAM		SALTON SEA AND	Los Flores River	·····op ·····	do	0p	do	do	op	dodo	dodo	do	ф	ф.	Op	do	do.	0p	Nichols River	do	do do	•••••••••••••••••••••••••••••••••••••••	do	do	op	Paradise River	op op	do	do		Pickens River	op	ф	do	ф.	ор	op	do
RESERVOIR			Los Flores Debris Basin	op	do	op	do		Op.	dodo	Lincoin Debris Dasin	do	op	ор	op op	do	dO		Nichols Debris Basin	**************************************	do	••••••••••••••••••••••••••••••••••••••	do	do	d0.		op op	фор	do	0p	Pickens Debris Basin	do.		do	ф.		ф.	
DATA SHEET NUMBER			70-48a							0.00	10-43g								70-50a							70-51a					70-52a							

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Pickens Riverdodo.	do.	Rubio Canyon	dod	000	do	do.	Scholl River		000	Shields River	ф формания	ф	do	000	Op	do	do	do	do	Snower Biren	do do	do	do	do.	ор	Sparr Canyondodododododododododo	do	dod b	dodo	Stough Myer	do.	ф.	ф.	000	Sunset Canyon Creek	op	do.		do.	Vanalden River	ф	Tonday Control	do.	op	ф.	ф	····op	Ward Biyor	op.	op	do	
Pickens Debris Basindodo.	do	Rubio Debris Basin	ор	do.	op	do	Scholl Debris Basin	OD		Shields Debris Basin	do	ф фо	do	00		op	do	do	do	Caption Dobnic Barin	do.			do	dodo	Sparr Debris Basindo	Op	do	do.	Stough Debris Basin	op	do	do	Op	Sunset Canyon Debris Basin	op	dO	00 do	do	Vanalden Debris Basin	фф	Vondage Dobnig Dogin	Vergugo Debits Basillion	op	ф	p	ор	Ward Dahrie Basin	do d	ф	do	1/Debris excavated at various times.
70-52a		70-53a				;	70-54			70-55a										70-560	200-01				000	70-57a			0	(0-28a					70-59a					09-02		70.610						70-622				1/Deb

2/Drainage area 0.35 square mile through 1947, 0.64 square mile, after 1947.

SUMMARY OF

1953
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SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			†	: :	1	; ;	:	1	1 1	;		; ;	1	;	1 1	;	1 :	09*		ŀ	;	1 5	0 (	09*	: :	40	1 5	00 -	*62	1 9	20	*62		1	20	* 1	1	*70	*70
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			1	1 :	1 1	; ;	1	;		;	1		ŧ	;	 	1	27.6	23, 1		2 191	2, 117	150	136	132	234	230	129	833	826	181	289	284	281	116	112	58,3	1,6	7 . 001	136
STORAGE CAPACITY IN ACRE-FT		(pənı	1/	f t	:	f 3	1	ŀ	) [	;	1 1	: :	1	;	t 1	1	44, 1	36.9		29, 138	28, 159	150	549	532	26,000	25,590	265	45,410	45,028	1,421	289,000	284, 266	289,000 285,646	579	560	1,410	2,332	1,068	5, 436
PERIOD BETWEEN SURVEYS IN YEARS		AGE (Contir	944 T	1,3	. 2		٦.	- 73		1			.1			2	1	33		;	57.8	1 0	67	28	1 12	9	1 8	30	45	1 0	78.0	22, 7	19.6		28.0	37.0	1	10, 1	16, 0
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DRAINAGE AREA IN SQUARE MILES	NET	ND GREAT	·	ii	i		i	i	ii	i	i	i	i	i	i	i	1,59	1 %	DJACENT	12. 0		1.0	4,01	i	110	i	2, 01	52,7		7,62	996, 5	i	1,022,4	4,92		24, 1	2/1,501	30 7	
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NEAREST TOWN		SOUTHERN CALIFORNIA COASTAL AND GREAT BASIN DRAINAGE (Continued)	La Cresenta, Calif	ф ф ф ф ф ф ф ф ф ф ф ф ф ф ф ф ф ф ф	dod	Altadena, Calif	qo	do	do	ф	do	do	do	do	do	do	Julian, Calif	do La Cresenta. Calif	SAN JOAQUIN AND KEEN RIVER BASINS AND ADJACENT COASTAL DRAINAGE	San Francisco. Celif	dodo	Atascadero, California	Hollister, Calif	do	Santa Margarita, Calif	do	Copperopolis, Calif	California	ф	Stockton, Calif	Modesto, Calif	do	Californiado.	Bellota, Calif	do	Californiado.	ф	do	000
STREAM		SALTON SEA AND S	Ward River	dododo	do	West Ravine	· · · · · · · · · · · · · · · · · · ·	do	qo	do	do	Op	do	do.	00	do		Cooks River.	SAN JOAQUII	Laguna Creek	op	Atascadero Creek	N. Fk. Los Viboras Creek	do	Salinas River	ф	Penney Creek	N. Fk. San Joaquin River	фор	Shaw Creek	Tuolumne River	do.	Merced Riverdo	Trib. of Mormon Slough	do.	Ten Mile Creekdo	Tuolumne River	S HV Stanisland Creek	op
RESERVOIR			Ward Debris Basin	dodo				d O	do.	do	do	qo	do			do	Camp Marston	Cooks Canvon Debris Basin		Toper Crystal Springs.			Hawkins		Salinas		Copperopolis	Crane Valley			Don Pedro	ф	Exchequer			Hume	La Grange		op
DATA SHEET NUMBER			70-62a			70-63a											70-64	70-65		71-1		71-2	71-3		71-4a		71-5	71-6	i	71-7	71-8		7.1-9	71-10		11-11	71-12	71-13	

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96.3	95. 5	210,000	209, 183	12, 930	12, 697	6,712	069 (9	4.41	4, 43	134.01	88, 59	32.68	27.04	27.08	24, 86	5.75	5, 24	1,34	1,32	1.920	1,864	1.347	1, 185	2,45	2,32	12,60	12, 28	176,49	174.97	60° 3	60,07	5, 803	5, 706
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1937	1945	1929	1943	1882	1945	1900	1946	1940	1951	1928	1951	1880	1951	1913	1951	1934	1951	1945	1953	1945	1952	1943	1952	1947	1953	1941	1953	1946	1953	1945	1953	1938	1951
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California	do	Lodi, Calif	do	California	do	California	do	Danville, Calif	do	Walnut Creek, Calif	фор	Danville, Calif	ф	Concord, Calif	op	Pacheco, Calif	do.	Brentwood, Calif	do	do	ф	do	· op	do	ф	qo	do	ор	ф	ф.	ф	Hollister, Calif	ор
Trib, of Johnny Creek	op	Mokelumne River	do	Rock Creek	do	Bear River	:	:		:	:		:	Walnut Creek	dodb	Grayson Creek	op.	Marsh Creek	do	ф	фф		ф	Alhambra Creek	do	Marsh Creek	op	фф	do	ф.	do		do
McCarty. Trib, of Johnny Creek	do			Salt Springs Valley		:																							do.	Ordway			ор
71-14		71-15		71-16		71-17		71-18		71-19		71-20		71-21		71-22		71-23		71-24		71-25		71-26		71-27		71-28		71-29		71-30	

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313	282	725	969	200	196	258	254	31,500	28,893	8,545	7,840	41,098	40,439	130	120	190	182	3, 718	3,648	48,889	48, 219	4,300	4,086
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Ukiah, Calif	dp	Willits, Calif	do	French Town, Calif	do	Sacramento, Calif	do	Camptonville, Calif	·····op ·····	Auburn, Calif	ф	Stoney Ford, Calif	do	California	do	Corning, Calif.,	ф	Chico, Calif	do	Elk Creek, Calif	do	Redding, Calif	ор
		James Creek													do	Unnamed Trib, of Burch Cr.,	do						ф
Ridgewood (Walker) Forsythe Creek	do	Morris James Creek	op	Big Canyon Big Canyon Creek	op	Blodgett Unnamed Trib, of Consumes R.	opop	Bullards Bay North Yuba River	do	Combie (Van Geisen) Bear River	do	East Park Little Stoney Creek	орор	Faulke Lake (False Lake) N. Fk. Jenney Creek	ф.	Gerber Unnamed Trib, of Burch Cr.,	do	Magalia Little Butte Creek	opop	Stony Gorge Stoney Creek	op ·····op	Misselbeck N. Fk, Cottonwood Creek	dododo
72-1		72-2		72-3		72-4		72-5		72-6		72-7		72-8		72-9		72-10		72-11		72-12	

4/Excluding 3 square miles above P. G. & E. Canal. \*Estimated or assumed,

1/ Debris exgavated at various times.  $\overline{2}/$  Before construction of Don Pedro Reservoir in 1923,  $\overline{3}/$  Excluding non-contributing areas above Salt Springs and Bear River Reservoirs.

SUMMARY OF

## RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

AGE AL ENT ATION Q MI. RIOD	TONS		! !		; ;			19		564	130	456	100	103	15,24	366	45.73		68,61	346	442	1 0		1,070		;	;	30,49	1 -	61.0	46,0	15,24	;	41.16
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI FOR PERIOD	ACRE-FT		0,214		100		. 1	. 07	. 244	. 37	. 085	. 299		21.	. 01	. 24	03		. 045	. 227	. 29		02.	. 63		;	0,054	. 02	1 0	• 0 •	. 03	.01	; ;	. 027
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			1 }		1 3		1 1	40	: :	*70	*70	*70	*	0 1	0.2*	*70	*70	: 1 :	*70	*70	*70	1 0		7.8		1	1	*70	1 0	0.1.	*70	*70	; ;	02*
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			135		3,21		396	395	316	3, 29	2, 22	6,85	12, 16	. 72	. 65	11,48	17, 39	44.5	43, 9	15,6	36.8	45,0	264, 4	237, 5		81, 1	80" 8	1.9	3, 15	2, 77	4.6	. 31	5, 5	5, 1
STORAGE CAPACITY IN ACRE-FT			$\frac{1}{7}$ , 500		1,081	256	73, 737	73, 474 33, 000	32, 873 3, 79	3, 59	1,40	3,19	3,40	1,08	. 97	2, 41	2,00	250	3/247	1,39	2, 58	2, 25	49, 709	44,668	N WASHINGTON	89, 220	88,862	8, 61 7, 63	. 58	. 53	1.42	2, 38 2, 02	2, 63	2.47
PERIOD BETWEEN \$URVEYS IN YEARS			27	N OREGON	- 60	- 70	F 7	19,75	5, 1	ហ	00	ی ا	1	-	c)	10	=	:	13	10	7	;	, ,	43	AND PACIFIC COAST DRAINAGE IN	;	9	12	1	;	11		1	12
DATE OF SURVEY			1924 1951	IN NORTHERN	1913				1947	1951	1951	1946	1944	1946	1951	1951	1940	1938	1951	1951	1951	1942	1908	1951	OAST DI	1930	1936	1939	1940	1951	1951	1951	1939	1951
O OS		BASINS	Oct.	N NI S	Moss	Aug.	Oct.	July Oct.	Dec.	Oct.	Oct.	Oct.		100 +	Oct.	0	Oct		Oct.	Oct.	Oct.		Feb.	May	IFIC C Basins	- 1	July	Oct.		Oct.	0	Oct.	08	Oct.
DRAINAGE AREA IN SQUARE MILES	NET	A RIVER	61, 2	AST BASIN	337	126	184	102	1,09	100		. 467	. 249	1,50	000		.114	5, 60	. 088	1 0	600.	. 050	186	!		1,100		4.10	, 184	. 312		0, 47	. 480	1
DRAINA IN SQUA	TOTAL	AND UMPQU	61,6	ACIFIC CO.	337	126	186	104	1, 09	100	0 1	. 468	. 250	1,50	100	017	.115	5,62	. 089	)	0,0.	.050	188	:	UMATILLA) an and Okan	1,100	1 7	4, 1,	. 184	. 312		6,47	. 482	1
NEAREST TOWN		KLAMATH, ROGUE AND UMPQUA RIVER BASINS	Ashland, Oredodo	COLUMBIA RIVER BASIN AND PACIFIC COAST BASINS	Underwood, Wash	Portland, Ore	Pendleton, Ore	Cottage Grove, Ore	Post. Ore	ф.	do	do.	ф.	Moro, Ore.	do.	nem, do	Shaniko, Ore	Tygh Valley, Ore.	Dufur, Ore	do	Ine Dalles, Oredodo	Shaniko, Ore	Cold Springs, Ore	фф.	ER BASIN (GRAND COULEE TO UMATILLA) AND PACIFIC C	Bellingham, Wash	do	rakima, washdodododododo	Ellensburg, Wash	do	ор	do	Yakima, Wash	••••••••••••••••••••••••••••••••••••••
STREAM			Emigrant Creekdo	LOWER COLUMI	White Salmon River	Trib. of Clakamas	McKay Creek	Coast Fk, Willamette	do	do		Trib, of Rock Creek	Trib. of John Day River	Trib. of Deschutes River	down down	ouch Creekdodo	Trib, of Buck Creek	Trib, of White River	Five Mile Creek	Ор	WILL Creekdodo	Trib, of Buck Creek	Cold Springs Canyon	do	COLUMBIA RIVER BASI	Skagit River	dodo	Wenas Creekdodo	d Ossessessessessessessessessessessessesse	op op	do	Kye Grass Creekdodo	Naches River	do do
RESERVOIR			Emigrant Gap Emigrant Creek		Condit (White Salmon)	Lake Harriet (Oak Grove)	McKay.	Cottage Grove	Luther Claybool Pond	down the state of	caul Jaegar No. 1 Folluss	Paul Jaegar No. 2 Pond	3 Pond.	J. N. Wilson Pond.	do	Willard Darmet Folid	Arthur Schmidt Pond	Rock Creek Improvement Co	Vernon Christ Pond	d			Cold Springs			Diablo		high Valley Kanch No. I Pond	High Valley Ranch No. 2 Pond	High Valley Banch No. 3	do	nenry Clery Pond	Coffin Sheep Co. Pond	do
DATA SHEET NUMBER			73-1		74-1	74-2	74-3	74-4	74-5	- 1	0 = 4	74-7	74-8	74-9		01.	74-11	74-12	74-13		4-14	74-15	74-16			75-1	76. 2	7-01	75-3	75-4	LI LI	0-07	75-6	

# COLUMBIA RIVER BASIN (INTERNATIONAL BOUNDARY TO GRAND COULEE) AND PACIFIC COAST DRAINAGE IN WASHINGTON Pendorielle, Spokane, Walla Walla and Lower Snake River Basins

	:	473	1	473	* *	412	;	1,067	:	183		;	3,202	:	6,403	;	3, 263	;	1,830	;	290	1	5,031	:	926		;	976
	;	0,31	1	. 31	1	. 027	3	07.	1	. 12		;	5,38	;	4,20	1	2,14	;	1,20	1	. 19	1	3,3	1	. 64		;	. 64
	ž ž	*70	1	*70	t 1	*7u	f 3	*70	!	*20		:	470	1	*70	1	02.	;	*70	:	*70	!	*70	1	*70		1	*70
;	11, 2	9.6	11.6	9,8	14,3	11.6	9.7	5,6	20.0	19.1		301, 0	276,4	121	101	305	283	129	120	57.8	56.0	368.6	355.0	92, 2	87.7		27.1	44.2
	1.45	1,23	2,54	2.14	1,45	1.18	1.21	69.	2, 20	2.11		4.22	3.87	2,54	2,12	4,58	4,40	2, 71	2.52	2, 49	2, 41	5, 16	4.97	1, 29	1.23	00	00.	. 62
	-	9	1	9	4 1	10	4 1	9	;	7		1 }	5	!	S	;	.S	!	89	1	10	1	œ	1	7		1	20
	-	1951				1951			1944	1951		1946		1946	1951	1945						1943	1951	1944	1951			1951
		Sept.	- [	Sept.	1	Sept.	. 1	Sept.					Sept.		Sept.		01	ŧ	Sept.	t t	Sept.		Sept.	1	Sept.			Sept.
	0,128	1	. 217	i i	.100	1	. 125	1	. 109	1		. 013	1	. 020	1	.014	1	.020	1	. 042	;	. 012	1	. 014	į		. 014	1
	0, 129	1	. 218	1	. 101	;	. 125	ţ	. 110	1		. 014	1	. 021	1	.015	1	.021	-	.043	1	.014	1	.014	;	***	. 014	1
	Mrs. Weiss No. 1 Pond Asotin Creek Asotin, Wash	dodo	Mrs. Weiss No. 2 Pond Unnamed trib to Asotin Cr., do	op	Lester Reeves No. 1 Pond Asotin Creek N. & S. Forkdo	фф	Lester Reeves No. 2 Pond Asotin Creek		Dan Holt Pond Latah Creek	op	Unnamed Trib. of Clearwater	RiverLewiston, Idaho	dododo	do, Orofino, Idaho			op	Henry Kortemeier Pond Unnamed Trib. of Palouse R. Potlatch, Idaho	dododo	do	dodo.	Johanna Nelson Pond. do de Deary, Idaho	do.	Ed Galloway Pond.	do	Unnamed Trib, of Clearwater	River Nez Fierce, Idaho	opop
	Mrs. Weiss No. 1 Pond	do	Mrs. Weiss No. 2 Pond,	do	Lester Reeves No. 1 Pond	do	Lester Reeves No. 2 Pond	do	Dan Holt Pond	opop	Roy T. Wood Pond		do	Ed Knowlton Ponddo	op	Weldson Wassem Ponddodo	do	Henry Kortemeier Pond,	op	George Hoidal Pond	do	Johanna Nelson Pond	do	Ed Galloway Pond	dod	A. K. Tweedy Pond Unnamed Trib. of Clearwater		dodo
	76-1		76-2		76 -3		76-4		76-5		9-92			76-7		76-8		6-92		76-10		76-11		76-12		76-13		

### COLUMBIA RIVER BASIN IN CANADA

22

SNAKE RIVER BASIN (FROM KING HILL TO GRANDE RONDE RIVER)

2 2	3	ŧ	;	1	;	1	173,	1	202	1	395	;	366	1	224	1	30.	1	76.	:	45.	1	61. (
;	0.03	;	. 132		.063	1	. 109	;	. 136	;	. 259	1	. 240	B 1	. 147	1	.02	1	0.05	1	. 03	ŧ .	.04
;	;	-	;	;	;	1	73	1	*70	1	*70	1	*70	1	*70	!	*20	1	*70	!	*70	1	*70
110	109	13,7	12.2	494	491	128.7	125, 1	169,8	163.9	102.0	96.8	32.4	30.8	13.3	12.4	4, 46	4,67	23.5	23, 2	11,3	11.0	2, 23	1.73
4,737	4,668	37,659	33,622	7,897	7,855	279, 250	271, 550	104, 20	100.67	44.49	43.24	17,58	16,57	2,90	2,71	7.02	7. 52	4,54	4,49	12, 18	11,81	1,08	. 84
;	55	1	12	1	42	1	32,6	+ 1	46	1	11	1	80	l I	9	;	10	1	10	-	12	-	12
1892	1947	1924	1936	1905	1947	1915	1947	1905	1951	1940	1951	1943	1951	1945		1941	1951	1941	1951	1939	1951	1939	1951
1	June	June	June	1	June	Feb.	Oct.	1	Aug.	1	Sept.	ļ	Aug.			6 2	Sept.		Sept.	1	Sept.	1	Oct.
42.8	1	2,540	;	16	1	4/2,170	1 *	. 590	1	. 424	1	. 538	* 1	. 217	- }	1,61	;	.191	;	1,06	\$ 1	. 483	1
43	;	2,750		16		2,211 4		,614	1	. 436	;	. 543	;	. 218	;	1,61	1	. 193	. 4	1.07	:	. 484	1
Indian Creek Boise, Idaho					do		op	Cambridge.	op	f Wester R. do	:	op	40 do	Millor Smood Bond Little Willow Creek Pavette, Idaho	do do	Twin Duddles Dand Thosamed Trib of Boise R. Boise. Idaho.	twin do	1 ambkin Bond do. Mountain Home. Idaho	do do	المراقع والمراقع المراقع المرا	op	1	
Orchard Indian Creek	op	Black Canyon Pavette River.	do	Pleasant Valley	φ	Arrowrock - Roise Project	op	Andy Anderson Pond	do	Milton Branch Pond Unnamed Trib. of	do	W R Winninger Pond	do do	Millor Smood Dond	do	Twin Buddles Dond	ל אווא ז	I ambbin Dond	do	Man Charles Dond	do do	T T Coltin Dond	000
78-1		78-2	3	78-3		78-4		78.5	>	78.6	)	78-7		78.8	0 = 0 =	78-0	2	78-10	01-01	70 11	1100	70.19	77.0

1/Capacity survey considered unreliable. 2/Dam was raised 5 feet in 1927. 3/Reservoir was thouroughly cleaned in 1927.

SUMMARY OF RESERVOIR SEDIMENTATION SURVEYS MADE IN THE UNITED STATES THROUGH 1953

LAGE UAL HENT LATION SQ MI. ERIOD	TONS		61		1,070	
AVERAGE ANNUAL SEDIMENT ACCUMULATION PER SQ MI. FOR PERIOD	ACRE-FT		0.04		1,29	
SPECIFIC WEIGHT IN LBS (DRY) PER CU FT			02*		38.1	
CAPACITY WATER- SHED RATIO IN ACRE-FT PER SQ MI.			5,31		1,026 1,020	
STORAGE CAPACITY IN ACRE-FT			25.5		2/50, 149 49, 883	
PERIOD BETWEEN SURVEYS IN YEARS		ASIN	1 &		. 4.	
DATE OF SURVEY		ON RIVER E	1943 Sept, 1951		June 1948 Nov. 1952	952 survey, med,
E AREA	NET	AND SALM	4,80		47.9	2/ Determined by 1952 survey. * Estimated or assumed.
DRAINAGE AREA IN SQUARE MILES	TOTAL	INGS HILL)	4.81	PUERTO RICO	1/48	2/ Deter * Estim
NEAREST TOWN		SNAKE RIVER BASIN (ABOVE KINGS HILL) AND SALMON RIVER BASIN	Gooding, Idahododo.	PUERT	Utuado, Puerto Rico	square miles; put into operation
STREAM		SNAKE	Big Wood Riverdodo		Caonillas Riverdododo	ie drainage area to 85,5 square
RESERVOIR			Rattlesnake Butte Pond Big Wood River		Caonillas Caonillas River Uluado, Puerto Rico 1/48	$\frac{1}{2}/\mathrm{Caonillas}$ Extension Project increases the drainage area to 85.5 during October 1952.
DATA SHEET NUMBER			79-1		80-1	$\frac{1}{\text{during Oc}}$

NAME OF RESERVOIR

		DAIA					HAH	E OF RE	SERVOIR				DATA SHEET NO.
	1.	OWNER Dept	of Army.	Co	f E	3. R	IVER Car	nadiar	) .		3. STAT	E New	Mexico
3	4.	SEC. Pablo	WP Montov	a RANG	ie Gra	an t. 1/5. N	EAREST T		kirk. N.M	ex.	6. COUN		Miguel
P		STREAM BED EL					OP OF DAI		1,21,0		9. SPIL		ST ELEV. 4218
	10	• STORAGE ALLOCATION	11.	ELEVA'			RFACE A ACRES	13.	STORAGE ACRE-FEET	14.	ACCUM	ULATED -FEET	15 DATE STORAGE BEGAN
L	a.	FLOOD CONTROL	-	4218		13.	715	20	1.834		601,	112	
2	1	POWER											1 Jan 1939
18	c.	WATER SUPPLY											16 DATE NORMAL
PESE	d.	IRRIGATION											OPER. BEGAN
E	0.	CONSERVATION		4201		10,	073	29	6,412		399.	278	
L	f.	INACTIVE		4155			5,20		2.866	1	102.		Jan 1939
	-	. LENGTH OF RE			ian A	- A	7		TH OF RESERVO	) IR		ontour	
H	_	. TOTAL DRAIN		7,3!		TIII 25 -		22. MEAI					
B		. NET SEDIMENT				050		23. MEAI				38 yrs	INCHES
RS	-			SIAV. V		5,950			ANNUAL RUNO			51 3/	,400 ACFT.
\¥			.00	+		73					Lili yr		
Ľ	_	. MAX. ELEV. ]			CLEV.	4,040			ATTIC CLASSIF		0.0	Semi-ar	2.0
	26	DATE OF SURVEY	27. PERIOD YEARS	28 · A	CCL. EARS	TYPE OF SURVEY	30 NO OF OR CONTO	MANGES	31. SURFACE AREA ACRI	-	ACR	PACITY E-FEET	33. C/W RATIO AC-FT. PER SQML
		Jan 1939 May 1940 June 1942 Nov 1942 Oct 1944	1.4 2.1 .4 1.9	3,5	.4	ontour Range Range Range Contour	24 r 28 r	eet anges anges anges eet			601,1 599,7 585,1 581,1 576,7	12 12 12	82 82 80 79 78
		Feb 1949	4.3	10		Contour	10 f		13,552		566,1		77
1	26	DATE OF	34. PERIO		35.	PERIO	D WATER	INFLOW	ACRE-FEET		36. WAT	ER INFL.	TO DATE AC-FT.
ı		SURVEY	PRECIPIT		a. ME	AN ANNUAL	b. MAX.	ANNUÁL	c. PERIOD TO	TAL	a. MEAN	ANNUAL	b.TOTAL TO DATE
DATA		May 1940 June 1942 Nov 1942 Oct 1944 Feb 1949	14.26 22.40 12.50 14.32 13.68			62 <b>,</b> 279	963,3		114,26 1,369,78 457,28 235,60 528,65	6 8 3	510 381	,485 ,878 ,919 ,536	114,264 1,484,050 1,941,338 2,176,941 2,705,592
/EV	26	DATE OF	37. PER	100.5	FOIMEN	T DEPOSITS	ACRE-FE	FT	38. TOTAL	SED.	DEPOS I	TS TO DA	TE ACRE-FEET
SUR		SURVEY	a. PERIOD						a.TOTAL TO			ANNUAL	c.P.ER SQ.MIYR.
		May 1940 June 1942 Nov 1942 Oct 1944 Feb 1949	1,400 14,600 4,000 4,360 / 10,600		6	5,952 2,290 2,460	1.00	30 34	1,400 16,000 20,000 24,360 34,950		1,00 4,71 5,26 4,28	00 .0 60 80	.144 .677 .757 .615 .498 (.506)
			(11,250	)	(4	2,610)	(•3'	(0)	(35,600)		(3,52	20)	( •500 )
	26	DATE OF	39 AV. DRY	WGT	40 . SE	D. DEP. TON	IS PER SO	.MIYR.	41. STORAGE	LOSS	S PCT.	42. SE	D. INFLOW PPM
		SURVEY	LBS. PER C	U.FT.	a.	PERIOD			a.AV. ANNUAL			a . PERI	
		May 1940 June 1942 Nov 1942	75•7 75•7 75•7			1,648	1,:	255 116 248	•17 •78 •88	2	•23 •66 •33	14,86 12,93 10,61	14,863 13,079 12,498
		Oct 1944,	75.7		1	544	1.	017	•71	4	. 05	22,42	9   13,573
		Feb 1949	75.7			584 (620)		821 834)	(:58)	(5	·81 ·92)	(25,81	5   15.671

26.	43. DEF	TH DESIGNAT	TION	DAM	GE IN FE	ET AD	OVE	AND DE	1.01/ 00:	COT SI SI	/AT150			
DATE OF SURVEY		128-108 108										e'st ce	ST-12	
SUMAET			ERCENT O											
May 1940 June 1942 Nov 1942 Oct 1944 Feb 1 <b>9</b> 49	16 13		7 1	.0	6 5	10 7	1	.5 1	16 14	16 14	16		2	
26.	44. REA	CH DESIGNA	TION	PER	CENT OF	TOTAL	ORIG	INAL L	ENGTH O	F RESER	VOIR			
DATE OF SURVEY	0-10 10	20 20-30	30-40 4	0-50	50-60 6	0-70	70-80	80-90	90-100	-105	-110	-115	-120	-125
0011721		P	ERCENT O	F TOT	AL SEDIM	ENT L	OCATE	DWITH	IN REAC	H DESIG	NATION			
Мау 1940	{ <del>213</del> #	#23 #3 #22 #7	726		713		th Ca thas		an Am					
June 1942	(7 6 7 720 7	3 / 4	r	22 13	/1]; /27	+27 + 5	/18 /14	+2		Cana		Arm		
Nov 1942	(+ 6 +	2 /5 0 /1				129		<i>‡</i> 2	South	Cana	dian	Arm		
Oct 1944	(-1	0 / 1	72/	19	<del>/</del> 57	¥ 5	47/1	+3	Conch	as Ar	m			
Feb 1949														
				1105	N. D5555	1015	0.55		Щ.,	L			L	
WATER YEAR	MAX. EI	EV NIN	ELEV.		N RESERV		PERAT		MAX. EL	EV	IN. EL	EV	INFLOW	AC ET
1939 (9 mo	1	7.00	ELEV.	INFL	OW AL-FI	+	1945		4197.		4194.		97,9	
1940			47.05	1	46,835		1946		4201.		4192.		137,5	
1941	420	5.14 41	53.10		93,933		1947		4202.	46	4199.	00	129,3	29
1942		8.41 H	-97 - 75	1,1	17,300		1948		4201.	46	4195.	63	154,7	02
1943 1944			197.86 194.46	1	72,956									
(The April					58,836		חמים	01.13	which	has n	emain	ed f	ull m	nst o
the time														
April and	Septer	mber 1942	and	10cto	ber 1	947.	)							
46.		T			ON-AREA-									
ELEVATION	ACTES	Acre-fee		ATION	ACT			E-fee	ELEV	ATTON	Acr		CAPA	
	6,396	746,091		170	4,9		1	L,72]		20	1,0		19,	
	3,552	566,163		160	3,7		108	3,479	9 41	10	6	76	10,	610
4201	9,593	370,185	4	150	2,8		75	305	40		2	50	1,	847
	7,666	275,641		770	2,1		50	1,150	40	73.5		0		U
7180	6,123	206,909	4	L30	1,5	54	3.	1,823	7					
47.Report:	Interi	im Report	on Se	edime	entation	on i	n Con	nchas	Rese	rvo ir	Sou	th Ca	nadi	an
47. REMARKS AND	REFEREN	CES Avera	age of	all	sampl	es s	ecur	ed f	rom re	servo	ir ar	ea h	as th	e
following g	radatio	on: ]	Fine M	ediw	m Coar					Coars				
MIT Classif							Sand		and	Sand				
Percent		23	14		21		17		5	1				
1/This an 2/Conchas						۵ ٦	engt	hee	ne the	se al	077	വഴ് ഗ്രീ	nal o	hanne
to inte	ercept	at elev.	4230.	11 CQ	on cas	0, 1	iong t	no a	10 0110	ne ar	orie c	E	1101	ımınıc
3/This fi	igure a	ffected 1	by wat	er t	aken o	ut a	bove	res	ervoir	for	irrig	atio	ns	
48. AGENCY SUPP	s in p	arenthese	es per	tain	to de	posi	ts a	bove	and b	el ow	spill	way	crest	8
		mv. Corp											/4	

### RESERVOIR SEDIMENTATION

K	DATA NAME OF RESERVOIR DATA SHEET NO.																			
	1	OWNER							IVER			12 0	3. STATE							
DAM	4.		TWP. RANGE						EAREST T	OWN			1				$\dashv$			
0				8. TOP OF DA								9. SPILLWAY CREST ELEV.								
i	7. STREAM BED ELEV.  10. STORAGE 11. ELEVA					TION	12.		IRFACE	13.	STORAGE	E :	2.11	CUMULATE		15 DATE STORAGE				
ı		ALLOCATION T			TOP OF POOL			AREA ACRES			ACRE-FEE			CRE-FEET		BEGAN				
_	a. FLOOD CONTROL b. POWER									-										
10/		WATER SUPPLY					-										_			
RESERVOIR		IRRIGATION					+			-					16	*DATE NORM OPER. BEG	1AL			
Æ		CONSERVATION					+					-				OT EN. DEC				
ı		INACTIVE	ļ											-						
ı		LENGTH OF R	FSFRV	OIR					MILES	AV. WID	TH OF RES	SERVOII	₹	MILES						
	18. TOTAL DRAINAGE AREA SQ.MI. 22. MEAN ANNUAL P																			
HED		NET SEDIMEN			ING A	REA				23. MEAI		INCHES								
WATERSHED	20.	LENGTH	MILE	SIAV. V	VI DTH			MILES	24. MEAI	N ANNUAL	RUNOF		ACFT.							
WAT	21.	MAX. ELEV.		MIN.	ELEV.				25. CLII	MATIC CL	ASSIFI	CATION	ATION							
	26. DATE OF 27. PERIO								30 · NO-01	FRANGES	31. SUE	RFACE	32.	CAPACITY	33	33. C/W RATIO				
I		SURVEY		YEARS		YEARS		VEY	OR CONT			ACRES		ACRE-FEET	AC	FT. PER SC	1ML			
I																				
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I											•									
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ı	26.	DATE OF	34. PERIO			35.	· Р	ERIO	D WATER	INFLOW A	ACRE-FEET	Г	36.	WATER IN	L. TO	DATE AC	FT.			
ı		SURVEY				TION a. MEAN A		UAL	b. MAX.	ANNUAL	ANNUAL C. PERI		DD TOTAL a. MEA		AL b.	TOTAL TO D	ATE			
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DATA																				
7									<u> </u>		<u></u>					_				
SURVEY	26.														TS TO DATE ACRE-FEET					
SC		SURVEY a. PERIOD TOTAL b. AV. ANN						AL	c. PER S	Q.MIYR.	a.TOTAL	TO DA	TE b.	AV. ANNU	PER SQ.MI.	-YR.				
ı																				
ı													Luc							
ı	26.	DATE OF AV. DRI WGT.					SED. DEP. TONS PER SQ.MIYR.													
1		SURVEY	FR2	PER C	U.FI.	a.	PERIOD	)	b.TOTAL	TO DATE	a . AV . ANI	NUAL b	. TO DA	TE a.P	ERIOD	b. TO DA	TE			

26.	DATE OF	43. D	EPTH DE	SIGNAT	ION	RAN	GE IN F	EET A	BOVE,	AND B	ELOW,	CREST	ELEV	ATION	F		
	DATE OF SURVEY						l										
		PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION															
26.		44. F	REACH DE	SIGNAT	ION	PER	CENT OF	TOTAL	LORIC	SINAL	LENGT	H OF R	ESER	VOIR			
	DATE OF SURVEY	0-10	10-20 2												-115	-120	-125
				PE	RCENT O	F TOT	AL SEDI	MENT	LOCATE	DWIT	HIN F	EACH D	ESIG	NATION			
45.					R.	ANGE I	N RESER	VOIR	OPERA	TION							
WA	TER YEAR	MAX.	ELEV.	MIN.	ELEV.	INFL	OW ACF	T, W	ATER '	YEAR	MAX	. ELEV.	м	IN. EL	EV.	INFLOW.	ACFT.
46.					FI	FVATI	ON-AREA	)—CAPA	CITY	DATA							
-	VATION	AREA	CAF	PACITY			I AR				Y	ELEVAT	LON	AR	E A	CAPAC	ITY
	REMARKS AND											49. D	ATE				
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